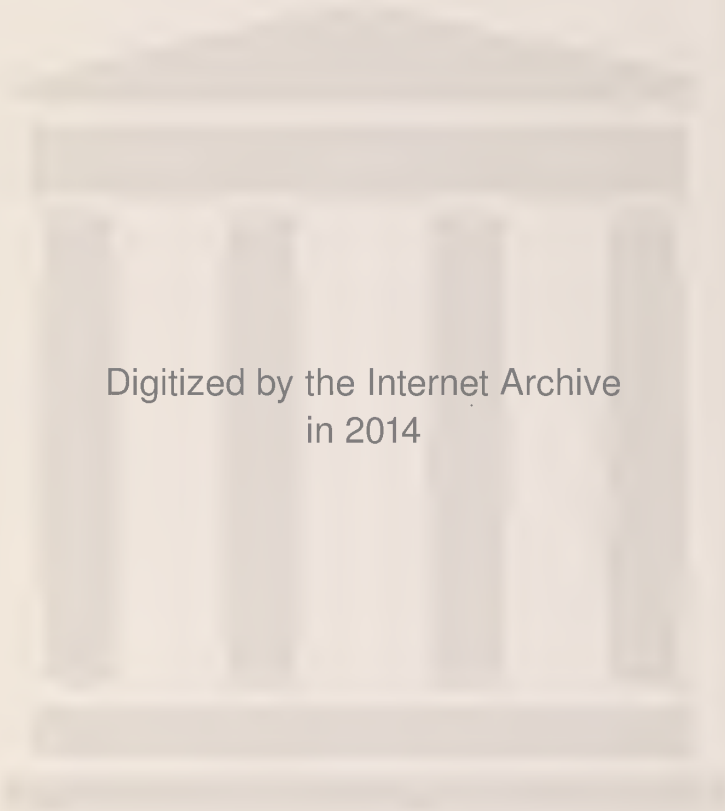


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BIENNIAL REPORT

of the

UNIVERSITY OF MARYLAND

and

STATE BOARD OF AGRICULTURE

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BIENNIAL REPORT

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STATE BOARD OF AGRICULTURE

Including a summary of the work of the University of Maryland, the Agricultural Experiment Station, the Extension Service, the State Board of Agriculture, and other branches of work under the jurisdiction of the University and State Board of Agriculture for the period from Oct. 1, 1936 to Oct. 1, 1938.



Issued monthly by the University of Maryland at College Park, Md. Entered as second class matter under Act of Congress of August 24, 1912.

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BOARD OF REGENTS

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LETTER OF TRANSMITTAL

His Excellency Governor Herbert R. O'Conor,
and the General Assembly of Maryland,
Annapolis, Maryland.

SIR AND GENTLEMEN:

The Board of Regents of the University of Maryland and the Maryland State Board of Agriculture herewith render a report of the work of the several departments under their jurisdiction for the last biennium, extending from October 1, 1936, to October 1, 1938.

Very truly yours,

W. W. SKINNER,
Chairman.

The President's Statement

To the Chairman and Members of the Board of Regents:

HEREWITH are presented to you reports of the Deans of the various Colleges and Schools, and heads of other divisions of the University and of the State Board of Agriculture, for the biennium extending from October 1, 1936, to October 1, 1938.

The reports of the heads of the various groups which make up the University seem to cover adequately the work for which the heads are responsible, but some phases of the University's development in the last two years seem worthy of special mention.

Perhaps the most significant of all developments during this biennium was the complete study, made under the direction of the Board of Regents, of every department in the University, with a view to finding the needs of each department and of determining the needs for improvement in personnel and physical facilities.

This study resulted in presentation to the Legislature of a plan for greatly improving the teaching and physical facilities of the University. After a good deal of consideration, the Governor of the State placed in his Budget a part of the total requests for maintenance, and recommended to the Legislature that the balance be provided by finding some way of raising the additional revenue.

The Governor also placed in his Budget the amount of $1,182,000 for building construction to improve the physical facilities for teaching and research.

The legislature, after long and serious consideration, passed such legislation as it felt necessary to provide the University with additional maintenance funds, and also passed the Bond Issue for buildings and equipment in the form and total submitted to it.

Following the Legislature, the Board authorized the President to seek from the Federal Government offset funds available for approved projects under the Public Works Administration. As a result, the Federal Government finally made a grant to the University of $1,086,014.

To the amount which the University received from the Legislature, there were added several gifts, including a very substantial one of $280,000 for the erection of a medical research building in honor of the late Dr.

Frank C. Bressler. Therefore, near the end of the biennium, the University had available for a building program a total of $2,413,364. Work on this program now is progressing and it is expected that within the next year equipment will be purchased and the buildings completed and occupied. This work involves the following:

At College Park: Addition to Dining Hall, Addition to Engineering Building, Addition to Infirmary, new Men's Dormitories, new Administration Building, new Greenhouses, new Service Building, new Home Economics Building, new Poultry Building and Poultry Plant, and remodelling of the interior of the Dairy Building.

At Baltimore: Addition of two floors to the University Hospital, Addition to Dental Building, Addition to Nurses' Home, Bressler Research Building.

At Princess Anne: New Administration, Classroom and Dormitory Building, new Mechanic Arts Building, and new Gymnasium and Auditorium.

Another significant development during this biennium was the construction of a plant for the Dairy and Animal Husbandry Division. Funds made available by the Works Progress Administration of the Federal Government were largely used in this construction and the University now has one of the most modern plants of the kind in the country. Ample facilities are available for caring for various breeds of dairy cattle, beef cattle, sheep and horses. This meets what probably has been the most insistent demand on the part of the agricultural people of the State. Further than this, 230 acres of land have been purchased for the sole use of the Dairy and Animal Husbandry Division, for use as a farm.

For some years the United States Department of Agriculture had been critical of the lack of land for agricultural research. With the growth of the University at College Park, the campus has encroached upon the agricultural land to an extent where very little is left. During this period, however, this need has been met by the purchase of two farms close to the campus, totalling 508 acres.

One of the outstanding objects of criticism of the College Park branch of the University by educational rating organizations was the Library, which was without adequate reference facilities. Happily, an appropriation of $30,000 by the Legislature for books, and use of other funds in the University for the same purpose, has greatly improved the Library facilities and has eliminated largely this cause of criticism.

The growth of the physical plant of the University at College Park had thrown too large a burden on the heating plant, and the Board of Public Works, out of funds at its disposal, made available $60,000 for an addition to the plant. This addition, in the form of a large combination pulverized coal and oil burning boiler, has been made and more than doubles the capacity of the plant.

A grant of $40,000 from the Works Progress Administration of the Federal Government has enabled the University to refurnish the old Hospital Build-

ing in Baltimore for use as a dispensary. The dispensary facilities have thereby not only been greatly increased but remarkably improved in appearance and convenience.

At the beginning of the biennium the University had outstanding on ground on which the Hospital and other buildings of the University in Baltimore stand, a considerable sum in redeemable ground rents. An appropriation by the Legislature has enabled the University to redeem these to the extent of $51,800.

At College Park the building in which the Live Stock Sanitary Service work is housed has been remodelled and now provides excellent headquarters and laboratories.

Several thousand acres of new forest land have been purchased and added to the State-owned forests and parks. Among the forest acquisitions is a gift of 4,000 acres by Cecil County and a gift of 1,000 acres by the City of Frederick.

It is expected that shortly the land which the Federal Government has been purchasing in the State will be turned over to be added to the total holdings in forest land and parks. It is expected that this will being the total holdings to more than 100,000 acres.

Improvements have been effected at Princess Anne, the College for Negroes, in both teaching and physical facilities. New equipment for laboratories, a new Home Economics Practice House, and a remodelling of the dormitories, have been the main improvements in physical facilities. The teaching facilities have been improved by fourteen new members of the faculty and by reorganization of curriculum, so that the College becomes, in effect, a four year standard college, giving bachelor's degrees in Home Economics, Agriculture and Mechanic Arts. These are based on a Junior College curriculum for Arts and Sciences.

With higher educational standards, with improved physical facilities, the University is now in a position to render greater and better service to the State. This development has come about not only through internal management, but through an awakening of interest on the part of the people of the State in the University, through a larger appreciation on the part of the people of the services which the University renders.

The state does not have, and has never made, as good an investment as it is making in its expenditures on the State University.

Signed

H. C. BYRD

College of Agriculture

DR. H. F. COTTERMAN, Assistant Dean

THIS report reviews briefly the main features of the progress made by the College of Agriculture during the biennium just closed.

During the biennium the enrollment in the College of Agriculture passed the 300 mark, which gives the University the largest enrollment in Agriculture in its history. By the very nature of the case, this enrollment is diversified and specialized. This, coupled with the requests of students in the other colleges and the Graduate School for special work, throws a larger instructional burden on this College than at any previous time.

The courses now offered by the College of Agriculture are designed especially to provide trained personnel for agricultural and allied industries These courses aim to fit students for one or more of the many occupations in agriculture affording employment to persons with special kinds of training. The education of students in fundamentals receives special attention. The fourteen professional curricula of the College are organized with a view to correlating technical work with related basic sciences and cultural subjects.

The College provides education of this type for those who wish to engage in general farming, livestock production, some phase of dairying, poultry husbandry, fruit or vegetable growing, floriculture, ornamental horticulture, field crop production, or in the highly specialized activities connected with these industries. It prepares men to serve as farm managers, as teachers in agricultural colleges and high schools, and as investigators in experiment stations. It prepares for extension work, for regulatory activities, for service in the United States Department of Agriculture, and for positions with commercial concerns related to agriculture. Its curricula in Bacteriology, Botany, Entomology, Genetics, Statistics, and Soil Technology now offer rich opportunities to the student with a scientific bent of mind, and lead to positions with many ramifications in teaching, research, extension, and regulatory work.

The strength of the College of Agriculture of the University of Maryland now lies in the close coordination and integration of the instructional, research, extension, and regulatory functions under the respective heads of its several departments. This coordination was perfected during the biennium and is just now beginning to bear the fruit expected of it. It places the University of Maryland in the forefront of Land-Grant Colleges and state universities in this respect. By means of this organization, those who give instruction to students are closely associated with the research, extension, and regulatory work being carried on in their respective lines,and, in many cases, devote a portion of their time to one or more of these types of activities. The close coordination of these four types of work, instruction,

research, extension, and regulatory activities, enables the University to support a stronger faculty in the College of Agriculture, and affords a higher degree of specialization than was formerly possible. It insures instructors an opportunity always to be informed on the latest results of research, and to be constantly in touch with current trends and problems that are revealed in extension and regulatory activities. Heads of departments are now able to hold staff conferences to this end, so that the students at all times is as close to the developments in the frontiers of the several fields of knowledge as it is possible for organization to put him.

The findings of the Experiment Station provide a real source of information for use in classrooms, and make possible a virility and exactness in instruction valuable in the extreme. The authority of scientific investigation is constantly before the student.

The contact of the Extension Service with the problems of farmers and their families in all parts of the State brings practical touch to resident instruction in the College of Agriculture. The interchange of ideas between the problems confronting rural people in their home communities, and the results of research taken to them through practical demonstrations by this Service, brings a familiarity with everyday affairs which is invaluable to instruction on the campus.

Through their Regulatory functions, certain trained workers in the departments of the College are constantly dealing with the actual problems associated with the improvement and maintenance of the standards of farm products, livestock sanitation, insect control, and similar protective measures. Direct contact on the part of professors with these activities lends the force of authority to classroom instruction.

In order that the work of the College shall be responsive to agricultural interests and shall adequately meet the needs of the several agricultural industries in the State, and that the courses of instruction shall at all times be made most helpful for students who pursue them, Advisory Councils were constituted during the biennium in the major industries of agriculture. These Councils are composed of leaders in the respective lines of agriculture in Maryland, and the instructional staff of the College of Agriculture now has the benefit of their counsel and advice at regular intervals. By this means, the College, the industries, and the students are kept abreast of developments.

To keep pace with the demands for added opportunity for specialization on the part of students in the College of Agriculture, and the request for special work from students in other colleges and the Graduate School of the University, additions in both equipment and space have been made in all of the departments of the College during the biennium.

In the basic science departments, Bacteriology, Botany, Entomology, Genetics, Statistics, and Soil Technology, these increases have been for most part in the form of added laboratories and laboratory facilities, including special reference materials. In the departments dealing more

specifically with production such as Animal and Dairy Husbandry, Crop Technology, Horticulture, Poultry, Farm Engineering, and Farm Management, these increases have been more in the direction of added acreage, cropping facilities, herds, and flocks.

The College now has farm lands totaling more than 1,200 acres which are operated for instructional and investigational purposes. One of the most complete and modern plants for dairy and animal husbandry work in the country, together with herds of the principal breeds of dairy cattle and livestock, have become a part of campus instruction during the past two years.

The facilities for laboratory and field instruction in Crop and Soil Technology have likewise been extended to the point that the Agronomy Department has in prospect one of the best plants for instruction and research in this field.

With the purchase of additional land, the nurseries and orchards of the Horticulture Department have been extended and plans have been perfected during the biennium for the relocation of the greenhouses. One of the next problems facing the Horticulture Department is the extension and further development of a modern arboretum in the interest of the ornamental shrubbery and floriculture industries. Such an added development, if funds were available, would prove a great asset to the instructional facilities of the Botany and Horticulture Departments.

During the biennium the plans for a modern Poultry Department have been projected. These plans envisage a plant comprising 34 acres with flocks of all the important breeds of poultry, and laboratories for instruction and investigation.

When the present building program is completed, the Farm Engineering Department has in prospect sufficient addition to its space to permit the efficient housing of the machinery necessary for its classroom work.

Some additional facilities are needed for the work in Farm Organization and Farm Management.

With the increased demand for agricultural instruction all along the line, and the persistent pressure from producers' organizations for more specialization in instruction, the teaching staff has been increased and strengthened in most departments. During the biennium these increases have been most pronounced in Poultry and Animal and Dairy Husbandry, with some additions in Bacteriology, Horticulture, Genetics, Statistics, and Agricultural Education. If the demand for instruction continues and increases in the biennium immediately ahead, it will be imperative to have funds for additional personnel for instruction.

Three classes of curricula are now available in the College of Agriculture: Technical, Scientific, and Special.

Technical curricula are designed to prepare students for farming as owners, tenants, managers, or specialists; for positions as county agricultural agents,

or teachers of agriculture in high schools; as executives, salesmen, or other employees in commercial businesses with close agricultural contact and point of view.

Scientific curricula are designed to prepare students for positions as technicians, teachers, or investigators. These positions are usually in the various scientific and educational departments, or bureaus of the Federal, State, or Municipal governments; in the various schools or experiment stations; or in the laboratories of private corporations.

Special curricula are arranged for those who desire to return to the farm after one or more years of training in practical agricultural courses. These curricula are for mature students who are not candidates for a degree, but are permitted to pursue a program of studies especially suited to their needs.

During the biennium, a freshman year common to all curricula in the College of Agricultural was perfected. Its purpose was to afford the student an opportunity to lay a broad foundation in subjects basic to agriculture and the related sciences, to articulate beginning work in college with that pursued in high or preparatory schools, to provide opportunity for wise choice of programs in succeeding years, and to make it possible for a student, before the end of the year, to change from one curriculum to another, or from the College of Agriculture to the curriculum in some other college of the University with little or no loss of credit.

Students entering the freshman year with a definite choice of curriculum in mind are sent immediately to departmental advisers for counsel as to the wisest selection of freshman electives from the standpoint of their special interests and their probable future programs. Students entering the freshman year with no definite curriculum in mind, or who are undecided, are assigned to general advisers who assist with the choice of freshman electives, and during the course of the year acquaint them with the opportunities in the upper curricula in the College of Agriculture and in the other divisions of the University. If by the close of the freshman year a student makes no definite choice of a specialized curriculum, he now continues under the guidance of his general adviser and at the beginning of the sophomore year enters the General Agriculture Curriculum.

Students continue to find opportunity for varied expression and growth in the several voluntary organizations sponsored by the College. These organizations are as follows: Student Grange, Livestock Club, Future Farmers of America, Bacteriological Society, Alpha Zeta, Agricultural Economics Club, and the Agricultural Student Council.

Membership in these organizations is voluntary, and no college credits are given for work done in them; yet much of the training obtained is fully as valuable as that acquired from regularly prescribed courses.

The Student Grange represents the Great National Farmers' fraternity of the Order of Patrons of Husbandry, and emphasizes training for rural

leadership. When called upon, it sponsors deputation work in local granges throughout the State. The Livestock Club conducts the Students' Fitting and Showing Contest held on the campus in the Spring. During the biennium, members of this organization won first place in judging dairy cattle at the Eastern States Dairy Cattle Judging Contest, with teams from ten of the universities competing. Members of this same club also won first place in milk judging at the Eastern States Exposition, with ten teams competing. The Future Farmers of America foster interest in vocational education, and the Collegiate Chapter serves as host Chapter in connection with high school judging contests held at the University each year. The Bacteriological organization is representative of a national group with chapters in many institutions. The Agricultural Economics group conducts special studies in the field of Agricultural Economics. All these organizations have regular meetings, arrange special programs, and contribute to the extra-curricular life of students.

The National Agricultural Honorary Fraternity, Alpha Zeta, fosters scholarship among the students of the College of Agriculture.

During the biennium, a concerted effort has been made to place graduates of the College of Agriculture. Just as each Department Head and his Staff under the new and integrated departmental organization described above are responsible for the advisement of students, so are they responsible for recommendations and the best placement of students in the industries which their departments serve.

Studies are under way to forecast the needs in the several fields of agriculture, and as this data in the interest of placement becomes available, it will be the aim of each department in the College to adjust its training of students to the needs of the industries it represents. It will definitely be the policy of departments not to train more students than the industries can absorb.

Agricultural Experiment Station

J. E. METZGER, Acting Director

THE Fifty-First Annual Report of the University of Maryland Agricultural Experiment Station is devoted almost entirely to a description of the purposes, the methods of study, and the results being obtained in the research in progress. This report is a digest of those research activities. The reader who may be interested in the details of the research on particular problems is invited to write for a printed copy of the Station's Annual Report.

Several important developments have been made during the last biennium. One of the most important of these is the coordination of Federal-State research activities as provided for by legislation covering the use of

Federal funds. The Station's work in many instances is organized on a problem basis which makes possible the integration of the staff and laboratory resources of all subject matter groups. Another item is that of facilities for research. The dairy and livestock barns have been completed and the poultry plant and staff enlarged to a point where this major industry may be better served. The purchase of land for soil fertility, farm crops, horticulture, and other plant studies has made possible the consolidation on one farm, of the field studies relating to important Maryland crops. A third development of great import in the research program of the Station was the inauguration of Advisory Councils for each of the important subject matter groups. These Councils have great value in assisting research workers adapt their findings to agricultural practice, and in giving the public a greater appreciation of the effort required to solve problems of the farm.

The publications of the Experiment Station for the biennium are listed by titles in both the Fiftieth and Fifty-First Annual Reports. Under these titles there are twenty-three station bulletins, forty-four scientific journal articles, and sixty-five reports published in miscellaneous periodicals and proceedings. Some of these journal and periodical articles are progress reports, but others are a complete account of the research. Reprints of the more important papers are made available to the groups especially concerned.

The work of the Department of Agricultural Economics has been reorganized within the past biennium into four major subject matter divisions. These divisions are: farm organization and management, marketing, farm taxation and finance, and land economics. The organization and business analysis of Maryland farms is a project undertaken some four years ago, and has been extended to include insurance and credit problems of Maryland farmers. Studies have been made of the broiler industry of Maryland, the Baltimore milk market, the hatchery industry, bee keeping, and such enterprises as potato growing and maple sugar production in Garrett County. In cooperation with the U. S. Department of Agriculture extensive studies have been made on types of farming in the State. The marketing studies have included an analysis of the motor truck marketing of fruits and vegetables in eastern markets, and an economic survey of the Baltimore fruit and vegetable market; the effect of motor truck transportation upon marketing facilities of Maryland, and the status and trends of cooperation in Maryland; egg marketing in the cities of Maryland, and the effect of Federal grading upon the marketing of eggs in comparison with other methods of marketing. The farm tax problem research work was begun in 1930 and has been continued during the current biennium. In addition there was a study made of the probable economy and efficiency in county government through a redistricting of the State. The project on land economics was begun in 1935. The inquiries of the last two years have included studies of the effect of agricultural adjustments in Kent County, and a detailed investigation of current land utilization in the tobacco region of the State.

Much milk is marketed in the smaller towns and villages of Maryland. In order to make possible, economically, the pasteurization of limited quantities of milk, a small electric milk pasteurizer is being developed. The efficiency of this pasteurizer is still under investigation. Work was completed in determining the effectiveness of electrically heated hotbeds. Among the problems that must be overcome are heat distribution and light effects. The covered resistance coils type seems to be the most satisfactory. In cooperation with the Federal Department of Agriculture, grain storage on the farm studies have been in progress for the past two years. The main problem in grain storage in Maryland is the high moisture content. One of the results of this investigation has been the invention of a new type of grain dryer. The dryer can be used cooperatively by farmers or by mills of approximately a fifty barrel capacity.

The work of the Department of Agronomy is concerned with soil fertility, crop management, and crop inprovement. Much effort has been given in the past two years to plant selection, hybridization of small grains, field corn and sweet corn, and studies on the inheritance in sugar and starch factors in sweet corn. An important development of the past year has been the testing of corn varieties and hybrids which have maturity dates that will permit their use in areas of the State heavily infested with the Japanese beetle. New interest is being developed in the soybean both for silage and for the manufacture of oil. Tests for the latter purpose were conducted on the Eastern Shore of Maryland where most of the oil beans are grown. In our fertility studies the main attention has been directed toward the capacity of soils to retain in an available form, such plant nutritional substances as may be added. The Coastal Plain soils are particularly low in their absorptive capacity. The current studies have led to the point where types of plants may now be studied for their potential organic colloid-forming qualities. The work of studying the relative fertility and management requirements of the important soils of the State has been continued. Considerable work has been done in connection with the minor elements in potato and tobacco production. Much assistance has been given to farmers on determining the fertility needs of their soils and on the management of their crop and pasture lands. Among the extended studies that have been in progress and which has been completed, is that of the causes of the hardpan in Leonardtown soils.

The work of the Animal Husbandry Department has centered about nutrition of animals, animal breeding, the curing of meats, and the handling of milk for manufacturing purposes. Perhaps the most important development in this field has been in the study of the quality of Maryland hams. This research has developed the fact that aging of hams accomplishes a chemical change which can be produced in a much shorter time than by the usual practice, through temperature control after the ham has been removed from the brine or other curing methods. About twelve weeks is required to produce the flavor of the old, much favored Maryland ham. A cooperative agreement with the U. S. Department of Agriculture on the feed input as related to the output in milk production has been in progress. Since

many stations are engaged in this inquiry, the results will have increased value due to the wide conditions under which milk is produced in this country. A portion of the effort in the manufacturing plant has been devoted to methods of determining quality in milk and cream, and the study of commercial practices in manufacturing plants.

The work in diseases of animals is supported by Federal funds, special State appropriations, and in part by Station funds. It includes the study of disease control for poultry, and all classes of livestock. Special attention has been given during the past two years, to research in Blackhead in turkey's Bang's Disease, effect of proteins on the internal organs of chickens, and the diseases common to horses and mules. A disease on which work has been started during the last biennium is that of Bovine Mastitis. This disease has caused great losses to diarymen and has public interest because of its effect on the quality of milk produced by infected animals.

The work in Bacteriology has been supported in part by commerical funds and in part by Station funds. The commercial studies have been directed toward the efficiency of regrigeration units and devices. The Station work during the last biennium has related to milk studies with special reference to sterilization of dairy equipment. Other work which is now in progress or for which plans have been made, pertains to the refrigeration and storage of fruits and vegetables.

Progress in plant improvement is dependent to a large extent upon the knowledge of the genetic constitution of the various species of plants. The purpose of the cytology work in progress is to extend fundamental knowledge in this field. The results of such work are usable by plant breeders and in turn give practicable results for farmers. The physiological studies relate to the growing plant, seeds and tubers. The current work is more particularly concerned with the water relations that obtain in seeds and plants and the effect of stimulants and growth promoting substances upon production and reproduction. In the pathological studies attention is given to the diseases of canning peas, tobacco, potatoes, fruits (both tree fruits and small fruits) and the life history of some of the less well-known diseases.

Research work in Entomology deals with the biology and control of insects which infest greenhouses, and all types of crops in the field. Among the greenhouse insects that are under study at the present time are the orchid thrips and the mealy bug. The field studies are directed toward the Japanese beetle, the Mexican bean beetle, the pea aphid, apple aphid, tobacco hornworm, and the corn earworm. The corn earworm studies have been extended to a point where conclusions may be drawn. The Japanese beetle work has been centered upon methods of restricting the infestations. The bean beetle work has resulted in control methods which are rapidly being put to practical use, and with the result of complete control where properly practiced. A part of the work of the department is devoted to testing the efficiency of sprays and insecticides.

During the past biennium the Home Economics Department has made an extended study of the standards of living on Maryland farms in Carroll County. The results of this work are available in bulletin form. Cooking tests have been run on canned soybeans and many recipes have been formulated, copies of which may be had upon request. In the past two years a study on the wearing qualities of women's and children's silk, rayon and cotton wearing apparel fabrics has been carried on cooperatively with a number of northeastern states. The purpose of the work has been to determine the durability of various fabrics. Much useful information is being obtained on the strength of fabrics, and their characteristics with reference to shrinkage, durability of dyes, and other qualities which enter into the problem of selecting suitable cloth for wearing apparel. This work is especially promising with respect to the general interest in the results obtained.

Under Horticulture is grouped the research work pertaining to tree fruits, small fruits, vegetables, canning crops with the exception of corn, tree and shrubbery plant production and landscape gardening. The research work during the last biennium included experiments on orchard management, influence of pollenation on fruit yield, fruit spur development, variety testing of peaches, apples, pears and plums; methods of planting and thinning of both cane fruits and strawberries, and the collection of phenological data which has been in progress for a period of thirty years. In addition, the department has done especially important work on the influence of fertilizers on yields of canning crops in their fertilizer placement tests, and in the devising of methods for determining at harvest time the quality of canning peas. Valuable help has been had through the integration of this work with that of the Department of Genetics and Statistics. Another important line of research work has been the study of the influence of sprays upon the quality of fruits, particularly apples. This work is important both from the standpoint of the market value of the fruit and also from the standpoint of the probable effect of the spray upon the health of the persons consuming the fruit. Studies that are of interest especially to florists have been carried on in connection with sweet peas, snapdragons, gladiolus and other flowering plants. In the field of nursery materials the project on plant propagation with special reference to cuttings has been especially productive in the matter of inducing self-roots through grafting desirable scions on stock produced from seeds. This system has been extended now to include many of the leading varieties of apples.

With the addition of building and plant facilities, and through equipment obtained through the gift of the Charles McManus Spring Hills Farms, the poultry research program has been enlarged and made more effective. The work is centered about the production of more viable, more efficient, and more productive strains of poultry which produce meat and eggs of better quality. The research program includes breeding and feeding projects, and projects on the physiology and management of poultry. Through cooperation with the Department of Agricultural Economics studies are being made on the home market for chicks, eggs and meat types of poultry.

The Seed Inspection work has been in progress in Maryland since 1913. During the past biennium the usual inspection and tagging as required by law, of all seed stocks, has been carried on. In addition, studies have been made of samples of seed sold in the State, for their plant producing capacity. This work is based upon the fact that some seeds may germinate, but due to inherent weaknesses and seed-borne diseases, may not produce mature plants. The aim of these studies is to determine the basis for listing the actual seed value of all seed lots offered for sale in the State.

Most of the departments carry on work in cooperation with the Federal Government. In the Department of Agricultural Economics the studies relate largely to land use. In Agronomy they are on Soil Conservation. Under Horticulture cooperative work on plant propagation is in progress, together with studies on muskmelon varieties and spray residue removal. In Animal Husbandry, the work pertains primarily to animal feeding and animal diseases. In Botany the work in progress has to do with the biochemistry of certain types of plants that may be used on hillsides and steep land. The Department of Entomology is cooperating with the Federal Government especially in the Japanese beetle studies, and studies in connection with the natural mating of the honeybee. All of the tobacco research of the Station is in cooperation with the Bureau of Plant Industry.

The Extension Service

DR. T. B. SYMONS, Director

AS the representative of the University of Maryland and the United States Department of Agriculture, the Extension Service had an important part in helping farm families to work toward a solution of the problems immediately confronting them, and also toward a sound long-time program for agriculture and rural homes. Through its specialists, its agents in all counties, through local leaders, and with the cooperation of numerous organizations, it made available the findings of the University and other agencies. It took a leading part in explaining and administering various new programs that have been launched by the Federal department.

A more complete summary of the activities and developments is published each year as an annual report of the Extension Service, and only some of the outstanding achievements are mentioned here.

It is difficult to measure, and even more difficult to express, the extent to which the manifold activities of the Extension Service are reaching and serving the people throughout the State. Without question, the effect of so-called "spread of influence", the adoption of practices and methods advocated by extension workers because of results others have obtained, rather than because of direct contact with the workers, is by no means inconsiderable. Some figures taken from a tabulation of reports made by

extension agents for the year 1937 will give a partial conception of the numbers that are being reached annually in one way or another by extension activities. Similar figures for 1938 are not yet available.

During 1937, the county agents and home demonstration agents made 24,843 farm and home visits to 12,013 different farms and homes. They received 75,601 calls at their offices on matters pertaining to extension work and 50,474 telephone calls of a similar nature. They wrote 66,568 individual letters and 3,424 different circular letters. They distributed 65,789 bulletins containing information on subjects in which those receiving them were particularly interested. The attendance at 7,705 method demonstrations conducted by extension workers was 11,270, and the specialists and agents participated in 5,309 other meetings of an extension nature, which were attended by 394,538 persons.

An effort was made by University authorities to coordinate more closely the research, extension, regulatory, and resident instruction work of the various departments. Each department was surveyed with a view to utilizing all the available man power and resources most efficiently and integrating all phases of work, both within the departments and between the related departments. An Advisory Council, with the Director of Extension as chairman, was formed for the purpose of assisting in determining policies and promoting coordination of activities.

An important development during the biennium was the provision of opportunities whereby those engaged in extension work can increase their efficiency and fit themselves to better meet the expanding field for activities. Beginning in 1937, advanced courses were offered as a part of the regular curriculum of the Summer School at the University of Maryland, designed especially to aid workers in improving their programs and methods.

During the entire biennium, extension workers have been called upon to assume leadership in a number of so-called "action programs" that were launched by the Federal Government under enactments of the United States Congress. Their cooperation has been enlisted also in a number of other Federal programs affecting rural people and conditions.

Work of this character has reached such large proportions and consumed so much of the workers' time and efforts that the molding together of the various programs, together with a well established, highly diversified Extension program, has demanded special attention. Specific progress has been made toward development of a broad program adapted to the needs of Maryland agricultural and rural life and the efforts of the several agencies are being coordinated with a view to the greatest contribution by each of them in carrying out such a program.

While it is not possible to segregate the results for a single year, and data for 1938 are not available, there is ample evidence that a very large percentage of Maryland farmers have participated in one or more of the federal farm programs under the leadership of the Extension Service. More

than 18,000 farmers have cooperated in the AAA program and carried out soil-building practices, for which they received approximately $1,500,000 annually in benefit payments. In 1937, the quantity of lime oxides applied per acre of cropped land in Maryland was exceeded in only two other states. Applications of superphosphates, seeding of legumes and grasses, use of green manures, and other soil-building practices have likewise increased.

The fact that Maryland ranked second among the six Eastern States in the number of applications for wheat crop insurance is significant of the readiness with which the farmers accept a new program, and an evidence of the effectiveness with which they were made to understand the program by extension workers.

Leadership in the program of the Rural Electrification Administration has been carried by extension workers and excellent progress has been made in bringing electric power to rural farms and homes. Maryland has moved from 21st to 16th place with respect to the percentage of farms using central station electricity, and 16,600 farms in the State now have electric service.

A drainage project on the Eastern Shore, instituted and carried on under the direction of the specialist in agricultural engineering of the Extension Service is estimated to have directly benefited 164,000 acres of land and provided outlet facilities for hundreds of miles of small tributary drainage ditches. The work was performed by CCC labor. It is estimated that it would have cost the farmers benefited $820,000 to obtain the same results.

Because of their particular training, their location, and their understanding of conditions, extension workers have given especially valuable help in a number of their Federal activities, such as Farm Security Administration, Federal Farm Credit Administration, Crop Loan Service, and Land Utilization Service. They had a prominent part in establishing a state-wide recreational program in conjunction with the WPA.

Many of the activities conducted by Extension workers have become so well established and the people of the State depend upon them to such an extent that they continued to grow, in spite of the extra attention demanded by the various Federal programs. Developments in the livestock and poultry industries are particularly notable. A great stimulus was given to the breeding and showing of high-quality livestock by an enactment at the last session of the legislature, which provided for taxing half-mile race tracks and creating a State Fair Board for allocating funds thus acquired as prizes for exhibits. Especially in the case of draft horses, beef cattle and hogs has there been unusual development, and corresponding demands upon the Extension Service for work with both adults and juniors. Maryland is becoming recognized as a center for first-class breeding stock for some of the breeds.

Poultry improvement work, including production, disease prevention and control, and the marketing of poultry products, has expanded greatly during the biennium, in line with the increased interest and activity by individual poultrymen and organizations of the industry.

While the extensive campaign to control the Japanese beetle was conducted by the State Horticultural Department, extension workers, especially the county agents, gave effective cooperation. Other problems in insect pest and disease control required campaigns of education and demonstrations of most effective control measures. The saving by prevention of loss from these sources annually amounts to millions of dollars.

Work in behalf of other industries and commodities was continued and, in most cases was expanded. Such activities included dairying, fruit production and handling, improvement of home and public grounds, vegetable production for home use and for market, and special work with canning crops.

Through the effective cooperation of the Extension Service, a cooperative marketing organization, and the growers, a market was found for $250,000 worth of snap beans in 1937 at a time when critical problems developed because of a strike in the canning industry. Provision was made for handling a similar situation should it develop when tomatoes were ready to can. The county agent in one county rendered especially valuable aid in marketing the commercial crop of tomatoes when difficulties arose.

Increased demands for assistance in grading and standardizing their products are evidence of the greater desire on the part of fruit and vegetable growers to market their products on a sounder basis. Producers of poultry products and eggs have been especially active in the marketing field. Apple growers in Maryland, in cooperation with growers in other Eastern States, are carrying on an extensive campaign of advertising to encourage the use of apples, and especially Eastern apples. Those engaged in practically all phases of Maryland's agricultural industry are realizing more and more that their success depends upon more efficient marketing and distribution of their products, and are calling upon the Extension Service for aid in that direction.

The various activities of homemakers have been cordinated into a program of "Better Family Living." This is in line with the evident trend of rural families toward fuller appreciation of the value of long-time programs.

As a result of the foods and nutrition project, more rural families are serving better balanced meals than ever before. Greater thought is being given to hot school lunches, as well as the packed lunch sent from home. Food preservation and family gardens have added materially to the income of a large number of farm families.

The clothing project has gone far in helping the farm family to budget and economize on the clothing program. Results of the style revue in different counties show the interest that homemakers are taking in the project and the progress they have made.

An outstanding feature of the home management project, which was added during the biennium, is the accounts kept by homemakers. They serve as a basis for sound development in other phases of home management.

Through the home furnishing project, rural families have been helped to do many simple, inexpensive things, which have added much to the comfort and attractiveness of their homes.

The Rural Women's Short Course, with the opportunity it affords homemakers to spend a week at the University, has had its influence on rural life in every community in the State. The Course offers the women an opportunity for advanced work in adult education and training as community leaders.

Approximately 11,000 rural boys and girls have carried out definite educational projects each year under the direction and leadership of extension workers. Such projects involve practical work in dairying; poultry raising; growing of field and garden crops; breeding and care of livestock; food selection, preparation, serving, and conservation; selection, construction and care of clothing; home furnishing; and many other subjects. Outstanding in development of the work during the last two years was the progress made by boys in conservation and livestock projects and by girls in the clothing project.

Another distinct accomplishment was the progress made in dealing with the problems of older youth and placing the activities of that important group on a sounder basis than in past years.

Construction of a camp in the extreme western part of the State provides much needed facilities for the 4-H educational camps and greatly enhances the opportunity for effective work.

The Extension Service has not only cooperated with other departments of the University, but also with many other agencies in carrying out its diversified activities. It has worked closely with the farm organizations of the State and has enjoyed their whole-hearted support at all times.

THE STATE HORTICULTURAL DEPARTMENT

Certain definite duties and responsibilies are delegated to the State Entomologist and State Plant Pathologist under the State Horticultural Department. With a view to coordination and greater efficiency, the work is placed under the supervision of the Director of the Extension Service.

Work in this field, under the direction of Dr. E. N. Cory, State Entomologist, is designed to control insects as economic factors and protect the public in the purchase of products of nurserymen and florists. A general survey of insect conditions enables the staff of the Entomology Department to cooperate with growers and householders in development and utilization of insect control methods.

A considerable part of the time of the staff is occupied by inspection of nurseries and floral establishments. Approximately 275 such establishments were inspected each year during the biennium, and certificates were issued for the movement of stock. In addition, the inspections connected with issuance of special certificates to individuals and non-commercial organizations for shipment of plant materials required much time.

Cooperation with the Federal Government in the inspection and certification of materials that come under the Japanese beetle quarantine is another major control function of the department. Approximately 50,000,000 plants were inspected and certified under the Japanese beetle quarantine; 1,159,744 packages of farm produce, 4,467 packages of cut flowers, and 1,955 tons of sand, soil, peat and manure were inspected in 1937, and about the same number in 1938. It was necessary to inspect 1,500,000 narcissus bulbs in each of the two years to meet requirements of states maintaining narcissus bulb quarantines.

A Japanese beetle retardation program is conducted under the State Horticultural Department and in 1938 involved the expenditure of $95,000 in cooperation with Federal, State, county and municipal governments and individuals. Of this amount, $40,000 was appropriated by the State. The main effort was a large-scale trapping program, the treatment of soil, liberation of parasites, spraying, and changes in agronomic practices. More than 600 barrels of beetles were trapped in the heavily infested area. The program received the approval of at least 95 percent of the farmers in the heavily infested area and householders in the other areas trapped, based on returns from a questionnaire. More than 600 colonies of parasites were liberated in the hope that they, together with activities of individuals and organizations in the various types of control efforts, will ultimately help to maintain a balance in nature.

Anti-mosquito work in Worcester County was conducted under this department in 1936 and 1937. Two CCC camps in that county devoted their time, under direct supervision of a member of the staff, to ditching tidal marshes for control of mosquito breeding. Approximately 3,000,000 feet of ditches were constructed in the marshes, 10,000 feet of dikes and 21 tide gates were installed for control of salt water flooding the marches. This represents ditching of 90 percent of the tidal marsh area of Worcester County. Marked reduction in mosquito prevalence was noted by automatic electric traps operated in several areas in the county.

Insect outbreaks of a wide variety were handled by the staff. Particular mention is made of the pea aphis outbreak, which was general throughout the state, and the Mexican bean beetle. Correspondence in connection with insects sent for determination and requests for information amount to a considerable item. Approximately 6,700 letters were written each year; 500 articles and reports, 6 new bulletins and circulars, 1,200 certificates were issued, 47,940 bulletins and mimeographed circulars were sent out; and members of the staff averaged 82,609 miles traveled each year in making visits to farmers, nurserymen, beekeepers and householders; 130 demonstrations were held; 60 exhibits were staged; 174 addresses were made to audiences totaling 14,000 persons.

The apicultural work includes inspections for diesease control and extension work to improve beekeeping methods. An average of 49 apiaries or 460 colonies of bees were inspected each year, with an average of 30.6 percent of the apiaries and 8.2 percent of the colonies found diseased.

Activities of the State Horticultural Department in the field of plant disease control are under the direction of Professor C. E. Temple, State Plant Pathologist.

This service was continued and will require even greater attention, if the spread of certain very destructive new diseases is to be checked. It will be necessary to inspect very carefully about 1,000 acres of strawberries, cut up into small fields, during March and April for the red stele root rot disease, during April and May for the Northern, or Cape Cod, nematode, and between July 15 and the end of October for the Southern nematode, or crimp disease, as these diseases cannot be detected at other times. The importance of strawberries in Maryland is indicated by the ten-year average of 8,050 acres of market berries, by a 50 million nursery plant business, and by countless small strawberry patches grown by farmers and others for local consumption—in all, about 10,000 acres, valued at $2,000,000 annually.

Peach trees are susceptible to five virus diseases—mosaic, phony, red suture, roseatte, and yellows. Since all the virus diseases can be carried in the nursery stock without being detected, it is necessary to scout the orchards for them.

Yellows is the only one of the five diseases known to be present in the State. The phony disease, discovered in two counties in 1935, seems to have been eradicated, as no new cases have been found during the last three years. Freedom from this disease three years in succession places Maryland on the Federal list of phony-free states and enables nurserymen of the State to ship their peach trees into certain states where this privilege was formerly denied. Yellows appears to be increasing and growers are cooperating with the department in efforts to reduce its spread.

Inspection and certification of potatoes and sweet potatoes for seed purposes by Dr. R. A. Jehle has been a function of the State Horticultural Department for many years. Demand for this service continues and the gradual increase in the amount of stock certified attests to the value of the services rendered.

In 1937, 448 acres of potatoes, produced by 126 growers, were inspected for certification, and in 1938, 456 acres, produced by 132 growers, were inspected. Of these, 299 acres of 87 growers and yielding 26,619 bushels were eligible for certification in 1937; 240 acres of 76 growers and yielding 27,088 bushels were eligible in 1938.

As a result of sweet potato inspection in 1937, 31 acres, produced by 31 growers and yielding 7,700 bushels, were eligible for certification. In 1938, 27 acres, produced by 27 growers and yielding 6,000 bushels, were eligible.

This disease has been found in all counties where white pine trees grow naturally and where they have been planted extensively for forest and landscape purposes. It has been possible to protect the more important white pine forests from the blister rust through a cooperative agreement between

the Federal Bureau of Entomology and Plant Quarantine, certain relief agencies, the State Department of Forestry, and the State Horticultural Department. Wild and cultivated currant and gooseberry bushes constitute the alternate hosts of the blister rust fungus and protection was given by uprooting these bushes. Records show 3,193,756 bushes destroyed since the work stated in 1932. The State has contibuted very little to this project and cannot expect the Federal Government to carry the expense indefinitely. An appropriation is needed to carry it on.

No new cases of the wart disease have been discovered in Maryland for several years, but this may be due to the fact that funds have not been available for scouting the environs of the 22 scattered small plots of land that are known to be infested. If these constitute the limits of the distribution of wart in the State, the infested land should be disinfected. It would be better and less expensive than continuing the wart hazard indefinitely. If done while relief labor is available, the cost would be much less than would be required later. There are those who would discontinue the quarantine, but if that were done, other states and Canada would quarantine against Maryland potatoes.

Two years ago six cases of Dutch Elm disease in Maryland were reported. Since that time, no new cases have been discovered, although considerable scouting has been done. More than 40,000 trees infected with the disease have been found and destroyed in other states, mainly New Jersey, New York and Connecticut. Leaders in the eradication project claim the Dutch Elm disease can be eradicated. It may reappear in Maryland and it follows that all suspected cases reported must be examined, and that some scouting must be done.

The London plane tree is planted extensively in Baltimore and other cities as a street tree. A new disease, caused by a fungus has already resulted in removal of about 600 trees in Baltimore and environs, and a much larger number in the Philadelphia area. Infected trees become unsightly and usually die in three or four years. No funds are available to investigate this disease in an effort to check its spread.

Biennial Report

Live Stock Sanitary Service

THE various activities of the Live Stock Sanitary Service have markedly increase in the past biennium. Much of this was accomplished through close cooperation with the Federal Bureau of Animal Industry, State agencies and private citizens of the state. There has beer little change in the personnel of the department but through greater diligence, the increasing demands on their services have been efficiently met.

In 1936 only 15 Maryland Counties were accredited as being Free of Tuberculosis. Since that time all 23 counties have been accredited and several have been retested and reaccredited in accordance with Federal regulations for such work. Although the infection rate for this disease in the various counties is appreciably below one-half of one percent, we cannot possibly consider that it has been eradicated. Several previously clean herds have become reinfected and serve as a focal center of infection. These instances, although few in number, indicate the necessity of annual herd tests if we are to protect the investment the state and the owners have made in the establishment of Tuberculosis Free Herds.

The program for the control and eradication of Bang's disease made rapid progress after State indemnity funds became available in October 1937. In 1936 there were approximately 5,000 herds containing about 43,000 cattle under test. At the end of the current biennium, over 16,000 herds containing approximately 120,000 head of cattle were under test and nearly 800 were listed as being Bang's Disease Free Accredited Herds. Virtually all cattle in ten counties were tested under the area plan, which included Anne Arundel, Prince George's, Charles, St. Mary's, Calvert, Garrett, Allegany, Somerset, Worcester and Wicomico. In the remaining 13 counties dairying is of major importance and some 18 percent to 40 percent of the cattle in the various counties are under supervision. The infection rate varies from twelve percent to twenty-six percent of the cattle and Bang's disease exists in approximately fifty percent of the herds. Due to insufficient funds for indemnity purposes, no new herds were accepted under State supervision after April 1938. Subsequent to this, owners of over 35,000 head of cattle have asked that their herds be tested as soon as State indemnity funds are made available. Approximately 175 herd owners have accepted Federal supervision alone, waived State indemnity and personally absorbed the loss on cattle slaughtered because of Bang's disease. On account of the economic loss and the human health danger experienced through maintaining Bang's infected cattle, there is a state-wide insistence for its eradication. Progress of the work, however, is contingent upon the State and Federal Government accepting with the owner a portion of the loss. Since May 1934, when the Federal Bang's disease program started, there has been expended in Maryland nearly $500,000 for indemnity and

approximately $200,000 for services and supplies. During the last biennium, Maryland funds for Bang's disease indemnity totaled slightly less than $96,000. It is apparent that the eradication of this infection will be costly to the State and Federal Governments and the owners, but it is equally certain that failure to do so will be more costly.

Rabies continues to be an intermittent but serious problem. The infection is apparently spreading in the states East of the Mississippi River and in the past two years sporadic cases have developed in six Maryland Counties. Several people and some few head of live stock were bitten by rabid animals and many dogs were exposed. Through the use of strict quarantine measures, the various outbreaks were apparently successfully controlled. It has been found that in most communities from five to ten percent of the dog population are stray or unwanted animals. Much of the spread of rabies is due to such roving animals and to the importation by automobile of dogs that have been exposed in other states. It is apparent that the rigid enforcement of adequate dog laws would be most helpful in controlling this most serious infection.

Hog cholera control through the employment of sanitary practices and the proper feeding and management of swine herds has continued to keep loss from this disease at a very low level. For several years an average of approximately 450 outbreaks of cholera occurred annually in Maryland and death losses average about 70 hogs per thousand. During the biennium, the average number of outbreaks was 276 and the individual loss was reduced to about ten hogs per thousand of the swine population. Swine erysipelas, however, has occurred in many counties and appears to be on the increase.

In horses, encephalomyelitis, which caused serious losses in 1933 and 1934, has occurred since then as only sporadic outbreaks. Death losses have averaged probably not more than 75 horses and mules per year. Within the last year a Chick Embryo Vaccine has been developed which apparently rapidly confers a high degree of immunity in treated animals. Periodic ophthalmia (Moon Blindness) is recurrent in horses in several counties and we are without adequate preventive or curative treatments. A bacterin prepared in our laboratory appears to be of some value but the whole problem is in need of further investigation.

During the biennium, assistance has been extended to horse breeders to determine early pregnancy in mares. As all Thoroughbreds have a common birthday, January 1, certain knowledge that conception has taken place is of great value. Over 500 mares have been examined in the past two years and the diagnoses made using virgin rats as test animals have proved about 95 percent efficient. Also, the services of our laboratories have been called on by horse breeders for assistance in sterility and breeding problems. This type of work is on the increase and apparently should be rapidly developed to aid in reducing the present heavy losses to the Thoroughbred and draft horse breeders.

Over 20,000 dairy, beef and feeder cattle were imported into Maryland in the past two years, the majority of which were feeder steers. Included in this list were approximately 7,500 dairy and breeding cattle and the records would indicate that Maryland stockmen annually import about 1,000 more dairy cattle than they sell. Public auctions and sales stables are handling large numbers of live stock each year. Insufficient supervision is now maintained over such establishments to preclude the possibility of the sale of diseased live stock. The unrestricted movement of trucks carrying domestic animals across State lines is a potent source of danger for the entrance of animals not meeting Maryland requirements. Stockmen and legitimate live stock dealers should be more adequately protected against these sources of danger. Inspection of sales stables has been requested by some few dealers but due to a lack of personnel it has not been possible to give to the buyers and sellers the full protection they desire and deserve.

Diagnostic laboratories are maintained by the Live Stock Sanitary Service at College Park, Baltimore and Salisbury and it is anticipated that one will be established at Centreville in the near future. In the latter location, the County Commissioners have agreed to provide space and services while the State is to equip and staff the laboratory. Such regional laboratories are widely used by the stockmen and veterinarians and have proved an effective factor in reducing live stock and poultry losses. In the past two years, nearly 650,000 diagnoses were made in these laboratories on blood samples, milk, tissues and other material submitted for examination. It is apparent that a prompt and accurate diagnosis must be made before treatment procedures can be intelligently instituted. The locating of regional laboratories in the more important live stock centers is proving an economical and efficient method of reducing live stock and poultry losses. Also during this same period, several staff members of the College Park Laboratory, in addition to their routine duties, have conducted one or more phases of investigational work which should prove of considerable value to the State.

The work of testing chickens for Pullorum disease has increased more than any other phase of our activities. In the current biennium, approximately 500,000 field and laboratory tests were made on Maryland birds for Pullorum disease. Unfortunately, this large volume of work must be accomplished within about a fourteen week period in the Fall months. The uncertainty of the demands for this type of blood testing requires considerable flexibility of personnel and funds if the work is to be satisfactorily accomplished. In addition to the examinations for Pullorum disease, a wide variety of other diseases, ailments and conditions in poultry flocks have been investigated, and an increased amount of assistance is being demanded by the poultry industry. Every effort, however, has been made to meet this demand and apparently satisfactory results are being obtained.

It is impossible to anticipate sporadic and epizootic outbreaks of disease. Through the veterinary field force and the close cooperation of practicing veterinarians, this Service has invariably been promptly informed when serious infections have occurred in time to take corrective action to

minimize the loss. The field veterinarians are performing an indespensible service in conducting Bang's disease and Tuberculin tests, investigating hog cholera outbreaks, enforcing rabies quarantines and similar duties for which the Live Stock Sanitary Service is responsible. A very marked increase has occurred in the quantity and quality of work performed by the members of this Service over their accomplishments in previous biennial periods. It is apparent, however, that little if any further increase may justifiably be expected without additions to the clerical and professional staff. Several legitimate demands have been made by individuals and organized groups within the State for an extension of the activities of this department and such help as is possible is being given. Certain of these demands, however desirable, must remain for development in the future.

Feed, Fertilizer, and Lime Inspection Service

L. E. BOPST, Associate State Chemist

FOR many years the State of Maryland has had on its statute books laws that govern the manufacture and sale of feed, fertilizer, and agricultural liming materials. The State Inspection Service is charged with the responsibility of administering the various provisions of these enactments. These duties consist of annual registration of different brands, sampling of products in the field, analyzing in the laboratory, publishing of results, and prosecution of violators.

Feeds, fertilizers, and agricultural liming materials are purchased for the results they produce, and results depend upon chemical composition as well as the quality and quantity of the ingredients that are blended into the finished product. Since quality and composition can be ascertained only by careful laboratory analysis, the State Inspection Service makes such analyses and publishes its findings for the information of the public. In this way the farmer is kept advised regarding the products offered to him for sale, and the manufacturer periodically can check his guaranteed analysis against those published.

The regulatory laws of Maryland, then, serve and protect both manufacturer and consumer. The consumer may buy feed, fertilizer, and lime on the basis of the manufacturer's statement on the package, knowing that if the statement is not correct he is entitled to redress. The manufacturer, in turn, may sell his product and guarantee its analysis knowing that his competitor must follow the same procedure. This service has removed suspicion and rewarded honesty. It has built confidence in the mind of the farmer toward the manufacturers, as well as fostering a feeling of confidence between the manufacturers themselves. The individuals who administer the regulatory laws do so in a spirit of mutual responsibility and helpfulness, and from this attitude much good has been accomplished.

Condensed Statement of Control Activities

In the interest of clarity and convenience, the report below is presented under the general subheadings of the industries regulated.

FEED

	1937	1938	Total
Samples collected by Inspectors....	2,302	2,171	4,473
Samples forwarded by Maryland residents.....	354	380	734
Samples of cod liver oil collected and tested.....	43	37	80
Licenses issued (brands licensed) ..	2,521	2,563	5,084
Feed prosecutions instigated.....	19	5	24
Receipts in license fees.....	$33,480.00	$33,735.00	$67,215.00

FERTILIZER

Samples collected by Inspectors....	1,491	1,364	2,855
Samples forwarded by Maryland residents.....	117	154	271
Licenses issued (brands licensed)	970	918	1,888
Receipts from license fees and tonnage tax.....	$21,255.43	$22,010.61	$43,266.04

LIME

Samples collected by Inspectors....	158	141	299
Samples forwarded by Maryland residents.....	114	112	226
Licenses issued (brands licensed) ..	119	138	257
Receipts from license fees.....	$735.00	$830.00	$1,565.00

During the past two years this organization collected and analyzed 7,627 samples of feed, fertilizer, and lime. In addition to official samples tested, gratuitous examinations were made upon 1231 samples which were forwarded by residents of Maryland. The number of samples sent in by individuals will continue to grow from year to year, as the agricultural interests of our State expand and our citizens become more familiar with service available through this Department.

Considerable time was given to the control of feed importations in order that our buyers and consumers would not receive materials not suitable for animal and poultry consumption. Numerous cargoes of Japanese Fish Meal were sampled to ascertain if decomposition would render the material unsuitable for feeding. Several lots of wheat bran and wheat middlings were tested for their suitableness for feeding. These, however, were found satisfactory.

From 1931 when this Department began testing vitamin D supplements as a regulatory procedure until 1937, semi-annual reports of the results of these tests were regularly made. During that period products of this type were registered under a guarantee which prescribed the potency in terms of the percentage which would protect against rickets when added to a definite rachitic ration and fed to chicks according to a rigidly standardized method. In 1937, the expression of guarantee was changed from this so-called "percentage" basis to one in which the potency was given in terms of Association of Official Agricultural Chemists (A.O.A.C.) chick units. This change required some alteration in the method of testing which was being used and consequently necessitated a period of research work to enable our staff to adjust itself to the new procedure. As a consequence no results obtained during this period were made public until November 1938, when a report of the assay of twenty brands was published for distribution. A total of eighty individual brands, however, were assayed during the two years and reports of the results were transmitted to the respective manufacturers. Progress reports pertinent to the work being done were published from time to time. A summary of the work done up to 1937 was also compiled and published in May 1937. Beginning with the report of November 1938, referred to above, periodic publication of the tests are planned for general distribution.

During the last two years a number of dog foods have appeared on the Maryland market in both can and dry forms. We are encountering considerable difficulty from those parties responsible for merchandising the canned products. No consumer cheat is so profitable potentially as adulteration with water and, surprisingly, it is one of the most difficult to detect and deal with under the law. Nothing can be said in defense of a manufacturer who sells water to consumers at feed prices. The technical difficulty lies in the fact that water is a natural ingredient of practically all commodities and a normal amount of water is not an adulteration. The establishment in a court of law that a food contains excessive water and is therefore adulterated is a formidable legal problem. There is a need for legislative authority to set up legal standards for dog foods, under which definite limits for water content can be established.

Congress has empowered State Officials under certain circumstances to report either to their branch laboratories, or to the United States Attorney direct, offenses which have been committed under the Federal Law. The United States Supreme Court has held that the procedure adopted in the development of such prosecution is entirely valid and not subjected to the ministerial limitations imposed upon the Secretary of Agriculture.

Operating under this authority the Maryland Department originated 24 violations of not only the Federal Law, but the State Law as well. The Federal Government places the responsibility for a misbranded or adulterated shipment upon the out-of-state shipper, where it rightfully belongs, but a medium is afforded whereby local dealers are protected against prosecution for sale made in good faith and in entire innocence of an intentional

illegality. The reference of an interstate infraction to Federal authorities most always results in expediting financial reimbursements to the consignee if the nature of the violation indicates a monetary loss.

The vigorous enforcement of the Feed, Fertilizer, and Lime laws is of considerable value to the reputable manufacturer as it removes from competition the products of the sophisticated mixer.

The State Department of Forestry

By F. W. BESLEY, State Forester

THE work and accomplishments of the Forestry Department for the biennium ending September 30, 1938, may be summarized under six lines of activity.

STATE FORESTS AND PARKS

During the period the State Forests were increased by several small purchases bringing the total to 64,692 acres and the State Parks to 2,895 acres, distributed as follows:

State Forests

NAME	AREA	COUNTY
Green Ridge	20,216 Acres	Allegany County
Doncaster	1,464	Charles County
Potomac	10,297	Garrett County
Savage River	17,682	Garrett County
Swallow Falls	5,905	Garrett County
Seth Demonstration	125	Talbot County
Cedarville	3,509	Pr. George and Charles Counties
Pocomoke	1,732	Worcester
Elk Neck	3,762	Cecil
	64,692	

With the aid of eleven CCC camps operated with Federal funds an important development and improvement program has been conducted in the State Forests and Parks, greatly increasing the value of the properties and preparing them for intensive use. The records, up to July 1, 1938, show that 31 dwellings and other buildings have been constructed, 12 wells drilled, 4 water systems and 7 sewer systems installed, 323 miles of truck trails and 216 miles of telephone line constructed, all for the better administration of the areas. Fire protection has been greatly improved by the erection of 11 lookout towers. 880 miles of fire trails, used also for foot trails, have been built. Extensive developments for recreational use are under way. 10 cabins, 36 picnic shelters, 60 outside fire places with tables and benches have been completed, 118 springs have been walled up and a dam to make a 52 acre lake is under construction.

The forest areas have been improved by fire hazard reduction on 12,500 acres, forest stand improvement work on 43,000 acres, and stock surveys covering 42,260 acres.

In addition to the above there is much work of a less permanent character not easily classified, but nevertheless important, as for example, 15,500 man days fighting forest fires.

The situation now confronting us is that with all this man power and Federal funds available we are certain to lose some of our CCC camps with their benefits and advantages, unless additional State Forest lands are acquired, since the permitted work on much of the areas is nearly completed.

The Department operates six State Parks which extend in a chain from the Allegany Mountains, in the west, to tidewater on the east, namely:

NAME	AREA	COUNTY
Fort Tonoloway	20 acres	Washington County
Fort Frederick	189	Washington County
Washington Monument	32	Washington County
Gambrill	541	Frederick County
Patapsco	1,466	Baltimore and Howard Counties
Elk Neck	647	Cecil
	2,895	

The stone walls at Fort Frederick have been restored, a road built and several buildings constructed by a CCC camp, completing the development at Fort Frederick. The same camp has also completed the work at Washington Monument State Park by rebuilding the monument, constructing one-half mile of road approach and erecting a substantial stone building.

Another CCC camp did improvement work on the Patapsco State Park, building roads, trails, shelters and a lookout tower, but moved out before the work was completed.

A CCC camp is now carrying on development work at Gambrill State Park and another CCC camp is working on the Elk Neck State Park. In each park the work is being carried out under plans of the Forestry Department, designed to prepare these areas for intensive recreational use.

The Tonoloway tract, which was given to the State this past year, is the site of Fort Tonoloway, a stockade fort built about 1755. No development work has yet been started, as no CCC camp is available.

It is noteworthy that without any advertising and with the development work uncompleted, there were 258,568 visitors to the State Parks this past summer.

The Department has continued this service of cooperative assistance to owners of woodlands or those who are interested in forest planting. Upon request and without charge to the owner an examination is made, the forest problem discussed on the ground with the owner and a report with recom-

mendations submitted. During the biennium 77 such examinations were made, covering 6,340 acres in 18 different counties. Further expert assistance is offered at nominal cost in selecting, marking and measuring the trees to be cut, the amount of timber and its value ascertained, timber contracts prepared and assistance in finding a market for the timber furnished. Such assistance was given to 19 owners, comprising 1,558 acres of woodland.

This kind of assistance is not only of the greatest value to the owners of woodland in enabling them to maintain good forest practice and market their timber under favorable conditions, but it is also of advantage to the State in providing demonstrations of practical forest management. With 90% of the forest lands in private ownership it is only through the cooperation of such owners that good forest practices can become effective generally.

There are 180,000 acres of land in Maryland in need of forest planting. It is land once cleared, but which is too steep or the soil too thin or poor to produce fields crops successfully. All of it is suitable for forest growth which is its best use under good land management. Most of it is in small areas found on thousands of farms. Planting plans were made for 41 farmers, covering 386 acres, in 15 counties.

The Forestry Department, many years ago, established a State Forest Nursery for growing small seedlings and transplants which are distributed at very low cost for forest planting. The annual output is about one million trees and the demand is increasing. During the past biennium 212 plantings were made, covering 1,773 acres using 1,773,424 trees.

The Department, under the Roadside Tree Law, Acts of 1914, Chapter 824, is charged with the protection of the trees growing along public highways or streets in towns. Permits are required for the cutting or trimming of such trees and are only issued after examination is made. The public interest in tree preservation is given full consideration. The trimming of trees by public agencies maintaining pole lines along the highways is supervised by tree wardens employed by the Forestry Department, but the service is paid for at cost by the individual or company doing the trimming under the permit. Approximately 875,000 trees were trimmed under permits during the two year period, requiring the work of 30 tree wardens on a part time basis.

The Roadside Tree Law also provides for the planting of trees along highway, either by public agencies or private owners. In order to provide suitable trees for the purpose at the lowest cost possible to encourage roadside planting, the Department maintains a tree nursery from which it distributes trees at low cost. The distribution is carefully restricted to limit the planting of such trees to improving highways or streets, thereby serving a public need. 11,116 trees were distributed for the purpose.

Numerous requests come to the Department for the examination of shade and ornamental trees with respect to diseases, insect trouble or advice as to planting or care. These requests are taken care of as fully as possible and represent a valuable free service which requires a considerable amount of time and travel. Whenever possible it is combined with other field work.

Forestry has its social aspects as well as its economic considerations. A balanced program is essential to secure the highest public benefits. Where the forests of a community are devastated by fire or seriously depleted by reckless cutting, that community suffers in many ways. The local supply of timber and other materials are gone, the employment of labor is reduced, water conservation is impaired, the cover for game and other wild life is destroyed and the attractiveness of the country for recreation disappears.

The educational program of the Forestry Department is designed by means of lectures and addresses before various organizations, demonstrations, exhibits, bulletins and news articles, to bring about a better understanding of our forest needs and important forestry practices on the woodlands of the State.

The members of the Department staff gave 91 lectures of which 40 were illustrated, during the past biennium, reaching several thousand people.

The protection of the 2,223,000 acres of Maryland woodlands from forest fire is a responsibility placed by law upon the Forestry Department. This is a responsibility which the Department endeavors to meet with about one-half the funds estimated to be necessary in attaining adequate protection according to standards of the federal government.

Half time of an assistant forester is devoted to directing the forest protection organization with part time of three district foresters directing activities in three districts of the State, assisted by nine district forest wardens, 32 forest fire towers, each manned by an observer during dry seasons, 40 forest guards to respond to fire calls and 600 forest wardens with 1,750 registered crewmen, paid by the hour for fire fighting. Each forest warden is authorized to employ such additional assistance as may be necessary in combating fires. In some sections of Maryland the Civilian Conservation and National Youth Camps have proven a welcome addition to the available man power in protecting threatened forest areas from fire. The forest wardens and guards continue to serve as the first line of defence in making the initial attack, while the young men in the government camps are called into action on the larger fires where reserve man power is imperative.

There were 2,661 forest fires in Maryland during the calendar years 1937 and 1938, which burned 32,990 acres of forest land, causing property damage of $104,513. It cost $12,551 for labor and expenses in extinguishing these fires, the counties paying one-half the cost and the State the other half. In addition to this expense the Department bore the cost of supervision, equipment, telephone service, travel and lookout service amounting to $79,240. In general 1937 and 1938 were favorable years for forest protection due to heavy rains at the peak of the fire seasons in 1937 and somewhat moist conditions during the more hazardous periods of the year in 1938. With the exception of the early part of 1937 abnormally dry conditions existed outside of the usual fire seasons, which resulted in a large number of unexpected fires, with at least several fires in all of the twenty four months of the biennium. These conditions were responsible for more than

the usual one-thousand fires per year that have been experienced in previous years under average weather conditions. Only twelve fires burned 200 acres or more, and only one exceeded 500 acres by burning for two days, without being reported, in an area where tower observation is not available.

Although very small State allotments were provided to pay for new fire tools and protection improvements, federal funds made possible a few new facilities for better protection. Three new lookout towers were erected at Salamander Rock, Frederick County, Madonna, Harford County and Shiloh, Dorchester County, by the Civilian Conservation Corps, and two towers, at Brandywine, Prince George's County, and near Smithsville, Caroline County, were reconstructed. The forest protection headquarters building and tool repair shop for the Delmarva area were reconstructed at Nassawango, Worcester County. Through federal funds a number of essential improvements were made in the radio equipment in the central protection area of the State and two new radio stations were added to the network bringing the total number of stations to ten.

Considerable credit is due the forest protection organization for establishing a high efficiency record during 1937 and breaking all former records during 1938 with regard to the average acreage burned per fire. In 1937, the average area per fire was 13½ acres, while in 1938 it dropped to the all time record of 11¼ acres. This is the first improvement in the fire fighting record since 1932, in which year the best previous record of 13-1/5 acres per fire was established. However, the accomplishments of 1937 and 1938 have been attained under somewhat favorable conditions and it may be a long time before as good a record can be established if more severe fire conditions exist.

Adequate forest protection, which is generally interpreted as an average annual burn of not over one-tenth of one per cent of the forest area of the State, is the goal towards which Maryland is striving. Even under the favorable conditions of 1937 and 1938 the State was far short of this goal, the area burned exceeding the objective by more than four times the allowable burn in each year. In 1937, 44/100 of one per cent of the forest area burned and in 1938, 42/100 of one per cent burned as compared to an allowable burn of 1/10 of one per cent.

Notable progress towards this objective was made until 1933, when heavy cuts in the fire protection budget stopped progress towards the goal. New fire observation towers and other protection facilities have been provided through Federal Emergency Conservation Funds, but State funds are necessary for equipping and manning the additional towers for longer periods of the year than now possible, and in replacing fire fighting tools and equipment that has worn out due to hard usage.

The Geological and Economic Survey

EDWARD B. MATTHEWS, State Geologist

THE Maryland Geological Survey during the biennium 1936-1938 has continued its regular activities in topographic and geological mapping and as a source of information regarding a wide variety of questions dealing with the physical features of the State. The questions answered have dealt with mineral resources and operations, the location of various substances—limestone, dolomites, oil, coal, feldspars, quartz, etc. The most frequently asked information relates to the sources of underground waters, the chance of getting water at various points and probable depth of wells, the interference of new wells, tunnels, etc. with old supplies.

Keeping abreast of the changing conditions requires continuous geological investigations of local areas which are usually carried out in the course of our regular mapping program. During the biennium the Survey has completed a detailed geological map of Frederick and western Carroll counties which is now in course of publication. The manuscript map showing the geology of Charles County has been completed and is now in the hands of the printers. Both of these maps will be accompanied by reports on the physical features of these counties.

Topographic maps have been issued for each of the counties of the State. These become out of date and new editions with corrections in roads, housing, and political boundaries are issued as the old editions become exhausted and funds available permit. During the last biennium new maps have been issued for Baltimore, Prince George's, and Somerset Counties. Special maps have been issued showing the depth of rock foundations for the City of Baltimore.

In cooperation with the U. S. Geological Survey the State maintains gaging stations for the determination of variations of stream flow. Continuous records must be kept for most of the principal streams of the State and the results are published annually by the Federal Bureau.

Because of reduction in funds for printing the number of reports published has been less than formerly. The latest of the series issued, Volume XIII, containing the results of a series of detailed studies in Baltimore, Harford, and Cecil counties has been the subject of widespread interest and commendation for the maintenance of the high standard set by the former publications of the Survey.

The State Weather Service has kept up its usual recording of observations and has revised the manuscript for a new edition of the popular brochure "Our Climate" which is now in the sixth edition.

The College of Arts and Sciences

L. B. BROUGHTON, Dean

THE student enrollment in the College of Arts and Sciences has continued to show a steady increase during the past biennium—1,114 being registered for the year 1937-38. This enrollment represents about one-half of the total undergraduate student registration at the University.

The number of graduates who received their training with major and minor work in the fifteen Departments of fundamental study of this College has likewise increased from 59 in 1928 to 132 in 1938.

As the other Colleges of the University are largely specialized, the College of Arts and Sciences is called upon to provide a fundamental educational program for the students registered in the Colleges of Agriculture, Commerce, Education, Engineering and Home Economics. In the professional Schools of the University the College of Arts and Sciences provides a collegiate training course of study in preparation for Dentistry, Law, Medicine and Nursing.

The close correlation between the College and the University as a whole is further evidenced by the fact that a large proportion of the students in the Graduate School is working for advanced degrees under the guidance of members of the staff of the College of Arts and Sciences.

Within the past two years the College of Arts and Sciences has been reorganized, on a subject matter basis, into divisions, for the purpose of providing a better educational policy regarding the student's choice of courses, sequence of courses, etc. The faculty is divided into four subdivisions: the Division of Humanities, the Division of Social Sciences, the Division of Biological Sciences and the Division of Physical Sciences, each with its own chairman and collectively referred to as the Upper Division. A fifth division, designated as the Lower Division, has been set up for administration, guidance and program-making for students in the first and second years in the College. This Division provides the student with a basic general education and prepares him for specialization in the junior and senior years. The chairmen of the four subject matter groups direct the courses of study for students doing their major work in their junior and senior years. To advance from the Lower to the Upper Division a student must acquire 58 credits, exclusive of physical development courses, with an academic average of "C" and maintain a general average of "C" or better for graduation.

With a steadily increasing student enrollment the Arts and Sciences Faculty has been required to extend its offerings to meet new educational demands. To this end the Departments of Sociology, Political Science and Psychology have been reorganized and strengthened by additional

staff members. The Department of Physics has been re-equipped and additional staff members employed. The Department of Modern Languages has been greatly strengthened by the appointment of a new chairman. Philosophy has extended its program. Chemistry, Mathematics and Zoology are maintaining their high scholastic standards with the addition of new staff members. The Department of English has been completely reorganized and is functioning smoothly and efficiently under a new chairman. The Department of History has extended its offerings and the staff has been strengthened. The Department of Speech has added new courses to include Radio, Speech Analyses and Debate.

In the School of Dentistry and in the School of Pharmacy the quality of the work done in the Arts and Sciences continues to improve. The teaching staff are members of the subject matter departments of the College of Arts and Sciences and their work reflects much credit on the College and the Departments.

For the College to function as a complete Arts and Sciences unit there should be established a Department of Music, Art and Drama. The University at present offers the undergraduate only a limited opportunity to pursue courses in these cultural subjects. To complete the program in the field of physical sciences and to meet the demands of the University, particularly the Colleges of Agriculture and Engineering, Geology should be developed beyond the few fundamental courses that are now offered. A Geology Department organized to provide advanced study and carry on research is essential.

With an increasing demand for advanced study a number of Departments in the College have arranged graduate programs leading to the Master of Arts and Master of Science degrees and the degree of Doctor of Philosophy. In the past two years additional staff members, laboratory equipment and library facilities have made it possible to offer graduate work leading to the Master of Arts and Master of Science degrees in Economics, Mathematics, History, Political Science, Psychology, Physics and Sociology, and programs leading to the Doctor of Philosophy degree, as well as the Master's degree, in Chemistry, English, Modern Languages and Zoology. In arranging these programs the Faculty has consistently had in mind the maintenance of a high scholastic standing, and the advanced degrees have been granted only after the fulfillment of the most rigid requirements.

The development of a graduate program has stimulated in no small degree the activities of the staff of the College in the field of research. It is deemed desirable to have all members of the faculty active in the study of some problem in their field. Graduate programs have also greatly stimulated the undergraduate student to the end that many junior and senior students attend the departmental seminars in their major elective. It is recommended that graduate study and research be further encouraged by the addition of more research fellowships in the subject matter groups.

The amount of equipment and experimental apparatus for our laboratories has increased from year to year. During the biennium the Depart-

ments of Chemistry, Physics and Zoology have been placed on a self-supporting basis by means of laboratory fees. Looking to the future, these Departments have been encouraged to invest a part of their funds for equipment and supplies in permanent apparatus. There is, however, a demand for equipment in other departments as the student body grows. Mathematics needs a model laboratory. The Social Sciences need maps, stereoptican equipment and moving picture machines, in order that modern educational methods can be used in presenting to the student in an effective, concise way, the problem he is studying.

In the University library, the laboratory for many departments, the number of volumes has been greatly increased during the biennium, but it does not yet meet all the demands of students and staff members. Additional reference and duplicate volumes are badly needed. The general need for new books in every department is apparent at all times. At present the demand for current periodicals, particularly those related to the Biological, Physical and Social Sciences, is even greater than it is for books, since this is an era of rapid and marked changes in the economic, political and sociological well-being of man, and his scientific achievements. It is highly desirable that means be provided to meet these needs.

Public addresses made by members of the Arts and Sciences Faculty have steadily increased from year to year and total about 200 for 1938. These addresses serve as an important function of the University in sharing our intellectual wealth with the community of which we are a part.

The demand for the evening graduate courses in Chemistry, offered in Baltimore and College Park, is greater today than when they were initiated some ten years ago. In Baltimore, these courses are given primarily for chemists engaged in the industries, while in College Park the needs of those employed in the United States Department of Agriculture and the National Bureau of Standards are first considered. The offering of these programs has brought the University, as well as the Department, into closer contact with the industries of the State and the government laboratories, with the result that many problems of mutual interest have been initiated. During the biennium research fellowships have been established with the Bureau of Standards, the Bureau of Mines, and the National Bureau of Fisheries. These contacts have brought to our laboratories new problems, new equipment and supplies.

The spirit of scholarship and research which has always existed among members of the College staff has been outstanding during the biennium. As a result of their efforts many bulletins, literary and scientific articles in magazines and book reviews have appeared. Notable among the scientific articles are the contributions from the Departments of Chemistry, Mathematics, Zoology, Political Science, English, Sociology and Psychology. A number of our staff members have books that have been accepted and are ready for publication. To stimulate further the spirit of scholarship and research a fund for the publication of articles by staff members would fill

a long-felt need. With the many theses produced by graduate students, and articles by the faculty, a University press would be a step forward in further stimulating scholarship.

The report for the Feed, Fertilizer and Lime Inspection Service, a division of the Department of Chemistry, will be found in a separate section. Attention is directed to the efficiency of this service which controls the manufacture and sale of these very important commodities so essential to the State's agricultural development.

A true sense of duty and an excellent spirit of cooperation has been shown at all times by each member of the College staff. The establishment of a retirement plan has afforded the Faculty and Staff a greater feeling of security as to the future. Salaries of staff members, however, are generally low as compared with other institutions of similar rank and scope of activity. During the biennium a goodly number of very promising young faculty members have been added to the staff whose salaries should be adjusted if the College hopes to retain them. It is respectfully recommended that a definite salary scale and a system of promotion be adopted as soon as funds are available.

The support and encouragement given by the Executive and the Board of Regents of the University have been deeply appreciated by every member of the Faculty and Staff of the College. As an expression of their thanks the Executives are assured of continued cooperation in connection with the advancement of the best interests of the University.

College of Education

DR. W. S. SMALL, Dean

THE functions of the College of Education are to prepare high school teachers, vocational teachers, high school principals, and supervisory and administrative officers; to supplement the work of the normal schools by providing a curriculum leading to a degree for graduates of the two-year and three-year normal schools, and by providing post normal work in preparation for positions as elementary school principals, special teachers, helping teachers; and supervisors; and to conduct graduate work in the field of Education. The Dean of the College is the Director of the Summer School.

Enrollment. In spite of more exacting standards for admission and for continuance in the College of Education, the enrollment for the biennium just completed has shown little variation. In the first semester of 1936-37 there were enrolled 263 full time students; in 1938-39 there are 279 full time students. Approximately 58 students registered in other colleges are pursuing curricula in Education making a total of 337 full time undergraduate students served by the College of Education.

Employment. Since the college was established in 1918, approximately 725 young men and women have been graduated. More than half of them have taught one year or more in the schools of Maryland. In the present year over 350 are employed, as teachers, principals, supervisors, and superintendents. Many have found positions of trust in other states and in higher educational institutions. A number of recent graduates are employed as Educational Advisers in C. C. C. Camps; in community recreation and social work; in government service; and in business.

As a specific example, the records of the Department of Home Economics Education show that of 150 graduates more than two thirds have taught in the schools of Maryland. In the present year, 50 are so employed; three are in the Extension Service; some are teaching in other states; others are employed in governmental and commercial positions. Many are married and are influential members of their home communities.

Under a Federal grant the Department of Home Economics Education has conducted for five years a Nursery School. In the biennium just ended this school has served with increasing effectiveness as an observation and practice center for students and as a laboratory for study of child nutrition and child behavior. It has received much favorable notice from the public and in the press.

Measures should be taken to make the Nursery School a permanent feature in the organization for teacher preparation. A curriculum and program for the preparation of Nursery School teachers should be set up as soon as possible.

It was noted in the previous Biennial Report that "For the past three years the College of Education has provided a limited program of evening courses at College Park for teachers in the vicinity. The enrollment, though not large, demonstrates that such a program is a real service to teachers." This program has been continued during the last biennium. The program has been self-supporting. The enrollment has increased by fifty per cent. This service should be continued, but should be incorporated into a general adult education program when such an organization is set up.

It was shown in the preceding Biennial Report that approximately 100 elementary teachers were working towards a degree in elementary education by a "combination of summer session, evening and Saturday classes, and attendance at the regular session." The forecast of increase has been realized. There are now more than 200 matriculants in this curriculum.

During the last biennium a number of positive gains have been made. The most significant are:

Provision of facilities for effective instruction in Visual Education has been made by purchase last year of projection apparatus, screen, and other essential items. The apparatus is available to instructors in other Education courses and has already been used in several other courses. Exchange of equipment with schools in Montgomery County has worked to the mutual advantage of the university and the county schools by increasing the equipment available to both.

Reports from the Departments of Physical Education for Men and for Women included elsewhere in this Biennial Report give all necessary details. It is necessary here only to make clear that the strengthening of those departments has made it possible to offer improved curricula for preparation of teachers of physical education. Another distinct gain is the beginning of an organized curriculum for the preparation of community recreation leaders—a development that has been urged for several years by the College of Education.

In former reports two points have been emphasized in discussion of Industrial Education: (1) the development of a program of in-service courses was progressively taking care of the needs of industrial and other vocational teacher training in Baltimore; (2) lack of a satisfactory four year training program at College Park prevented meeting the demand for teachers of industrial education in the county high schools.

Professor Leland, head of the department, died in March, 1937. He was succeeded by Professor Glen D. Brown. Under his direction, the Baltimore program has been developed consistently and the undergraduate program at College Park has been effectively established. The following summary gives the essential items:

1. Concurrently with the appointment of a new department head in September 1937 came important revisions of Industrial Education activities in the College of Education. Previously in the school year of 1936-1937 careful administrative planning was setting the stage for a long-view program of teacher training to more adequately supply the increasing needs for vocational and industrial arts instructors in Maryland high schools.

2. The Industrial Education curriculum was revised and made fully operative on the campus as a four year program leading to the degree of Bachelor of Science in Industrial Education, and qualifying graduates to teach practical arts subjects in State, Baltimore, and Washington, D. C., schools. This had been possible before only by attending two summer sessions; further fully specified curriculum offerings and catalogue descriptions in revised form had not been printed prior to the issuance of the 1938 general catalogue.

3. A full time assistant professor of industrial education was added to the College of Education staff at College Park, September 1, 1938, and the Baltimore part-time staff had to be increased to meet expanding demands.

4. Facilities at College Park were provided by utilization of limited space and equipment in the College of Engineering Building. Immediate needs were met by the addition of needed equipment and materials of instruction typically used in high school industrial education shop work. A departmental schedule was placed in operation at the opening of the fall semester, 1938. Sixteen young men enrolled for the opportunity to prepare for teaching practical arts work in Maryland.

5. Indications were at the close of the biennial period on September 30, 1938, that the situation existing in Maryland, where over 90% of the

industrial education teachers have, for several years, been imported from other states to staff our state high schools, would gradually be relieved through evolving plans of expanding and improving the Department of Industrial Education teacher training activities.

6. Enrollments of vocational and industrial education teachers in the Baltimore area increased over 40% in the fall of 1937 and the course offerings there were adjusted accordingly. A similar increase was evident at the fall registration in September, 1938. The actual figures for the two years are:

Year	Number of Individuals	Class Enrollments
1936-37	220	751
1937-38	276	1,024

The rapidly increasing demand for graduate work was shown in the last Biennial Report. In summary the reasons are: continuing demand for graduate work in preparation of high school principals; increasing preference, in appointment and promotion, for teachers with work beyond the bachelor's degree; and increasing demand for graduate work in preparation of elementary principals and supervisors.

SUMMER SCHOOL

Through the close coordination of the College of Education and the Summer School the College provides the programs and curriculums whereby teachers each year meet certification requirements and pursue systematic study towards a degree. In the session of 1938 more than 700 Maryland teachers were in attendance. About a third of these are carrying on, from year to year, a systematic program of studies leading to the bachelor's or the master's degree. Included in the 700 were high school principals, elementary school principals, elementary supervisors, and attendance officers.

The Summer School serves also the needs of undergraduate college students—some who have to make up deficiencies, others who are ambitious to accelerate their progress; and also of a considerable number of unclassified special students. A marked increase in enrollment occurred within the biennium.

Group Distribution	1936	1938
Undergraduate College Students	302	337
Elementary School Teachers	382	577
High School Teachers (Including Principals)	245	291
All others	148	184
Total	1,077	1,389

Geographical Distribution	1936	1938
Maryland	774	1,069
District of Columbia	205	222
Other States	98	98

The number of graduate students increased from 252 in 1936 to 294 in 1938.

Out of a number of features that would be worthy of mention, three are selected for special mention.

It was noted in the last Biennial Report that "in the session of 1936 a French School was operated with initial success sufficient to warrant its continuance." This forecase has been fully justified. Through the wise planning and management of Professor Falls of the French Department, it has made a place for itself as a permanent feature of the Summer Session program. In the opinion of students in attendance in 1938 "who have attended the French School at Middlebury College, our school compares favorably with that one and surpasses it in intimacy."

The feature known as the World Today Symposium was begun in 1937 by the initiative and under the direction of Dr. Reuben Steinmeyer of the Department of Political Science. It provides a course for credit, the lectures of which are open to the general public. The lectures in series of four for each week of the Summer Session are given by authorities in their respective fields; the instructor in charge is responsible for the academic standards of the course. The success of the course in 1937 was immediate and convincing. In 1938, the program was devoted to the Far East. In 1939 it will deal with Latin America. It is apparently a regular and permanent feature of the Summer Session program.

A beginning was made in the Summer Session of 1938 of a comprehensive program of courses in the field of guidance to extend through a series of summer sessions. To initiate this work the services were secured of Mr. Leonard Miller, Director of Guidance, Rockland County, New York, an outstanding leader in guidance for rural areas. The response in enrollment and interest was very gratifying. Through the cooperative efforts of Mr. Miller, the State Supervisor of Guidance, and our own department of Industrial Education, a program has been tentatively worked out which will enable Maryland teachers, in a series of summer sessions, to get a well-rounded program of courses in the guidance field.

In 1937 and in 1938 as in the preceding four summers, the annual State Parent-Teacher Conference was held during the Summer Session. This conference, under the direction of the officers of the Maryland State Congress with the cooperation of the Director of the Summer Session, is a form of adult education of significance in that those in attendance are concerned with practical study of school-home-community relations.

Conferences for the Educational Advisers of the Civilian Conservation Corps of the Third Corps Area were held during the Summer Sessions of

1937 and 1938 as had been the case the two preceding summers. Approximately 125 men from these camps in this area have assembled for systematic and intensive study of the problems confronting them as educational advisers in the Conservation Corps Camps.

The Summer Session exerts an increasingly extensive and vital influence upon the schools throughout the State and as the figures indicate, this influence extends beyond the State lines.

College of Engineering

S. S. STEINBERG, Dean

THE most important development in the College of Engineering during the past biennium was the accrediting on October 1, 1937, of our curricula in Civil Engineering, Electrical Engineering, and Mechanical Engineering, by the Engineers' Council for Professional Development. The accrediting resulted from an inspection on December 3, 1936 of the staff, curricula, and facilities by the Committee on Engineering Schools of the Council. This Committee consisted of:

Dr. Karl T. Compton, President, Massachusetts Institute of Technology, and Chairman, Committee on Engineering Schools of the E. C. P. D.

Dean Dexter S. Kimball, College of Engineering, Cornell University.

Dean Louis C. Mitchell, College of Engineering, Syracuse University.

Professor J. T. Finch, Department of Civil Engineering, Columbia University.

O. W. Eschbach, American Telephone and Telegraph Co.

A. W. Horton, Jr., Secretary to the Committee.

The accrediting was for two years; this limitation giving an opportunity to put into effect the changes the Committee recommended.

On December 8, 1938, the College was asked by Dr. Compton to submit a report on the significant changes made since the visit of the Committee of Inspection. This was done, and as a result a part of a letter from Dr. Compton, dated January 21, 1939, is herewith quoted:

> "Your report on significant changes affecting the accredited engineering curricula in your institution goes so far beyond the minimum called for that what you and your colleagues have actually accomplished in improving the engineering situation has in every case, I believe, been more than 100% of what our committee felt needed to be done, that I cannot refrain from congratulating you on what has been accomplished."

Two instructors were added to this department:

John Lowe III was appointed Instructor in Civil Engineering on September 16, 1937.

Mr. Lowe received the degree of B. S. in C. E. from the College of the City of New York in 1936, and the degree of S. M. from Massachusetts Institute of Technology in 1937.

Norman H. Moore was appointed Instructor in Civil Engineering on September 15, 1938 to succeed Dr. E. C. Ingalls, who served as Instructor in Civil Engineering from September 15, 1937 to September 15, 1938.

Mr. Moore received the degree of B. C. E. from Rensselaer Polytechnic Institute in 1937 and the degree of M. S. from Columbia University in 1938. He held an assistantship at Columbia on research in reinforced concrete 1937-38 and spent the summer of 1938 as draftsman with Waddell and Hardisty, consulting engineers of New York.

The curriculum in civil engineering has been strengthened by including a three-credit course for the first semester of the junior year in Principles of Mechanical Engineering, and another course of the same number of credits in the second semester in Principles of Electrical Engineering. In the senior year a three-credit course has been added on Soils and Foundations.

The work in Surveying has been strengthened by the introduction of an additional afternoon for practice in the second semester of the sophomore year and an additional credit in advanced surveying in the first semester of the junior year.

In another year we hope we can establish a summer surveying camp to be located in the western part of the state. This arrangement would permit us to lighten the load of engineering students during the regular academic year.

The following major items of equipment have been purchased during the biennium:

Transits, levels, level rods, and considerable minor equipment.

Torsion testing machine, hardness tester, Ames dials, and a photoelastic machine made in our shops.

Pelton water wheel, Venturi meter, centrifugal pumps, hook gage, scales, constant head assembly, pump assembly, and considerable minor hydraulic equipment.

Consolidation loading machine and consolidation device; elasticity needle, balances, and considerable minor equipment.

As a result of the establishment on our campus of the testing and research laboratory of the National Sand and Gravel Foundation (referred to later) there has been installed in our Civil Engineering laboratory considerable testing and research equipment and facilities. The more important of these is a 300,000 lb. Southwark Emery Hydraulic Testing Machine, a

Riehle Deval Abrasion Testing Machine, a Los Angeles Rattler, a constant temperature chamber, as well as complete equipment for the testing of cement, sand gravel, concrete, etc. The value of this equipment is about $15,000.

ELECTRICAL ENGINEERING DEPARTMENT

Dr. Willard A. Laning, Jr., was appointed assistant professor of electrical engineering on September 15, 1938 to succeed Dr. Arne Wikstrom, resigned.

Dr. Laning received the degree of B. S. from Bucknell University in 1927, and the degree of M. S. in E. E. in 1931 and Ph. D. in 1938 from the University of Illinois. In addition to practical experience with the Bell Telephone Co. of Pennsylvania, he was formerly Instructor in Electrical Engineering at Bucknell University and for four years Instructor in Electrical Engineering at Gettysburg College.

A course in Power Plants of three credit hours has been added in the senior year. In the forthcoming catalogue we plan to make additional course changes that will strengthen the curricula and meet more fully with the suggestions of the E. C. P. D. committee.

The following major items of equipment have been purchased during the biennium:

Generators, motors, ammeters, and transformers.

Electronics, Electrical Measurements, and Communication Laboratories

Cathode ray oscillograph, electronic switch, audio oscillator, condensers, resistors, electronic tubes, wavemeter, amplifiers, power meter, galvanometer, potientiometer, and considerable minor equipment.

In addition, we were fortunate in receiving as donations, or on consignment, considerable valuable equipment, including: transmission measuring set, an oscillator, amplifiers, radio equipment, D. C. motor generator set, as well as motors and other minor equipment.

MECHANICAL ENGINEERING DEPARTMENT

Professor J. N. G. Nesbit, formerly head of this department, was retired on September 30, 1938 and was succeeded by Dr. John E. Younger, who was appointed chairman of the department and professor of mechanical engineering on July 1, 1938.

Dr. Younger received the degrees of B. S. and M. S. in mechanical engineering from the University of California, and his Ph. D. from that institution in 1925.

From 1923 to 1937 he served successively as instructor, assistant professor, associate professor and professor of mechanical engineering at the University of California.

From 1927 to 1929 and from 1935 to 1936, when on leave from the University of California, he served as senior aeronautical engineer in the U. S. Army Air Corps on development of all-metal airplanes and stratosphere airplanes. His publications include a number of textbooks and scientific papers.

Dr. J. W. Huckert was appointed Associate Professor of Mechanical Engineering on September 16, 1937 to succeed Professor W. S. Bailey, resigned.

Dr. Huckert received the B. S. degree in mechanical engineering from the University of South Dakota in 1920; B. S. in electrical engineering from the same institution in 1923, and M. S. from the University of Illinois in 1925, and the degree of Ph. D. from Cornell University in 1934.

Dr. Huckert taught mechanical engineering at the University of South Dakota from 1923 to 1925 and at the Speed Scientific School of the University of Louisville from 1925 to 1930.

From 1930 to 1933 he was with the Gleason Works at Rochester, N. Y., and with the Bausch and Lomb Optical Co., Rochester, N. Y. from 1934 to 1937.

Wilson P. Green was appointed Assistant Professor of Mechanical Engineering on October 15, 1938.

Professor Green received the degrees of B. S. in mechanical engineering in 1931, and M. S. in 1936 from the University of Florida. He served as instructor in mechanical engineering at the University of Florida; was engaged for three years in high school teaching; and for two years in mechanical engineering practice.

E. J. Lindahl was appointed Instructor in Mechanical Engineering on September 16, 1937.

Mr. Lindahl received the degrees of B. S. in mechanical engineering in 1932 and M. S. in 1933 from the University of Wyoming.

The following major items of equipment have been purchased during the biennium:

A steam engine, air compressor, surface condenser, Diesel engine, turbine, and considerable minor equipment.

Atlas shaper, rotary table, midget mill, lathes, precision boring head, and considerable minor equipment.

Lincoln stable-arc welder.

In addition, we were fortunate in receiving as donations, or on consignment, considerable valuable equipment, including a Worthington pump, an air cooled, as well as a water cooled gas engine.

CHEMICAL ENGINEERING DEPARTMENT

The Department of Chemical Engineering was organized by the appointment of Dr. Wilbert J. Huff as Professor of Chemical Engineering and Chairman of the Department, effective beginning with the scholastic year 1937-38. Dr. Huff was Chief Chemist of the Explosives Division of the United States Bureau of Mines, and he is retained by that Bureau in a consulting capacity. He holds the degree of Doctor of Philosophy from Yale University (1917) and an honorary degree of Doctor of Science from Ohio Northern University (1927); is a graduate of Yale College (A. B. 1914) with the highest honors and special honors in chemistry. His professional experience included industrial chemical research with the Barrett Company, with the Explosives Division of the Bureau of Mines, as a Fellow in the Mellon Institute of Industrial Research in charge of the Research Laboratories of the Koppers Company (1920-1924). He was Professor of Gas Engineering at Johns Hopkins University and consultant for a number of large corporations prior to his employment as Chief Chemist by the Bureau of Mines.

Dr. G. M. Machwart, Assistant Professor of Industrial Chemistry in the College of Arts and Sciences was transferred to the newly created Department of Chemical Engineering. Dr. Machwart hold his Ph. D. degree from Ohio State University, and his Bachelor's degree from Wooster College.

Dr. Donald T. Bonney, Bachelor of Engineering, Johns Hopkins University Ph. D. degree in Gas Engineering, Johns Hopkins (1935) was appointed research associate in Chemical Engineering and Mr. Aylor Hodnett was appointed to the research staff as assistant. The equipment available to the Division of Industrial Chemistry of the Department of Chemistry was transferred to the Department of Chemical Engineering and a new curriculum was developed to meet the accrediting requirements of the American Institute of Chemical Engineers and the Engineers' Council for Professional Development. The curriculum in Industrial Chemistry was eliminated.

In addition to the small scale items for ordinary control operations, there was on hand a number of intermediate scale pieces for use in experimental work on unit operations. During the academic year 1937-38, this equipment was greatly expanded. Among the additions were a double-effect evaporator, a large column still, crushing and grinding equipment, a centrifuge, and a hydrogen-ion meter. In addition, a number of small instruments and accessories were purchased. By October 1, 1938, the Department had on hand well equipped unit operations and control laboratories.

In addition, the Crown Central Petroleum Corporation, which was supporting the research studies of Dr. Donald T. Bonney, made available a large amount of experimental equipment for researches on oil refinery operations.

Cooperation with the Government agencies on the campus, and particularly the Bureau of Mines, whose Eastern Experiment Station is located only a short distance from the Chemical Engineering laboratories, provides

access to a great variety of other equipment. By virtue of these facilities, the Department is in an excellent position to encourage educational and research work in Chemical Engineering of a very broad fundamental character.

During 1937-38, two fellowships were donated by the Department. Each of the recipients of these fellowships received the degree of Master of Science in Chemical Engineering in June, 1938. During the academic year arrangements were made for the renewal of these fellowships and they were awarded to additional candidates for the year 1938-1939. In addition, the Metallurgical and the Nonmetals Divisions of the Bureau of Mines gave two cooperative fellowships to candidates for the degree of Doctor of Philosophy in Chemical Engineering. These fellowship holders spend one half their time on research under the direction of experts in the staff of the Bureau and the other half on advanced studies, the major work of which lies in Chemical Engineering with minors in chemistry and physics.

In connection with the establishment of the work in Chemical Engineering, the United States Bureau of Mines initiated a series of lectures describing outstanding research projects of that Bureau in technical fields of interest to the University. These lectures were initiated on March, 1, 1938, and are held monthly throughout the academic year with the exception of September and December, usually on the fourth Tuesday evening of each month.

FIRE SERVICE EXTENSION DEPARTMENT

As a result of the success of the annual short courses for volunteer firemen held in the past, and at the request of the Maryland State Firemen's Association, this department was organized under the College of Engineering on October 1, 1937 with the late Professsor R. B. Criswell in charge. Professor Criswell died suddenly on January 3, 1939. Our regular budget for this work has been supplemented by funds from the Maryland State Department of Education, which has made possible the development and extension of fire service instruction on a wide scale throughout the State.

Professor Criswell organized a firemen's training course consisting of twenty weekly evening lessons pertaining to practical firemanship and with instruction in the classroom, and outdoors.

For the purpose of this instruction, the State has been divided into four regions, each in charge of an instructor, who, in turn, has control of seven or eight local teachers.

During the last academic year, this course was completed by 322 firemen, representing 78 fire companies in the State.

An important contribution from this department was a compilation of the laws of the State pertaining to fires, firemen, and fire departments.

Chief James W. Just, formerly Director of the Fire Service Division of the Wisconsin Schools for Vocational Education was appointed to succeed Professor Criswell, effective February 20, 1939.

The following tabulations give the enrollment in the College of Engineering for the academic years 1937-38 and 1938-39 as of October 1. It will be observed that the enrollment for the present year has increased 52 per cent in freshman registration and 36 per cent in total enrollment over that of last year.

1937-38

	Unclassified	Freshmen	Sophomores	Juniors	Seniors	Total
		*163				163
Chemical Engineering	.....	.....	.....	.....	.....	.....
Civil Engineering	.....	.....	27	18	10	55
Electrical Engineering	.....	.....	30	19	17	66
Mechanical Engineering	.....	.....	36	14	15	65
Unclassified	4	.....	.....	.....	.....	4
Total 1937-38	4	163	93	51	42	353

1938-39

		*234				234
Chemical Engineering	.....	.....	12	....	1	13
Civil Engineering	.....	.....	28	23	18	69
Electrical Engineering	.....	.....	27	22	13	62
Mechanical Engineering	.....	.....	57	23	9	89
Unclassified	6	.....	.....	.....	.....	6
Total 1938-39	6	234	124	68	41	473

*Freshman year alike in all departments.

Through our library fund we have purchased during the biennium 700 engineering books.

In addition, there has been donated to the College of Engineering the Davis Library of Highway Engineering and Transport, formerly at Columbia University. This library covers all phases of highway engineering, highway transportation, and highway economics, and includes many rare books and pamphlets. The number of volumes in this library totals 5,300 books and pamphlets.

Another donation has been the Transportation Library of the late J. Rowland Bibbins of Washington, D. C. This library contains 2,500 books and pamphlets dealing with urban transportation problems, including railroad, street cars, subways, busses, and city planning.

We have also secured a number of engineering books from the Public Service Commission of Maryland.

The total of additions to the Engineering Library during the biennium exceeds 8,500.

The National Sand and Gravel Association has, by arrangement with the College of Engineering, established its testing and research laboratory at the University by agreement dated November 23, 1937. The purpose of the Research Foundation thus organized is to make available tc the Association additional facilities for its investigational work in the fields of aggregates, concrete, and related problems. This arrangement provides for the College of Engineering additional testing and research equipment and opportunities for increasing the scope of its engineering research.

ENGINEERING EXPERIMENT STATION

The work of the Engineering Experment Station, in cooperation with State and Government departments, as well as industries, has continued. The projects undertaken during the biennium are included in the following list:

Project: Reinforced Concrete Hinge Construction
Cooperation: with Maryland State Roads Commission, and Rail Steel Bar Association.
Investigator: Professor G. C. Ernst.

Project: Smoke Abatement Research.
Cooperation: with Commissioner of Smoke Control of Baltimore, Smoke Regulation Engineer of Washington, and Maryland stoker manufacturers.
Investigator: Professor J. N. G. Nesbit.

Project: Expansion Joint for Concrete Roads.
Cooperation: with Maryland road form manufacturers.
Investigators: Dean S. S. Steinberg and Professor R. B. Allen.

Project: Diagonal Tension Reinforcement for Reinforced Concrete Beams.
Cooperation: with Maryland State Roads Commission, and Rail Steel Bar Association.
Investigator: Professor G. C. Ernst.

Project: Operating Effect of Size of Motor in Single Phase Rural Electric Lines.
Cooperation: with Rural Electrification Administration.
Investigators: Professor A. V. Krewatch (College of Agriculture) and Professor Myron Creese.

Project: Study of Allowable Stresses in Open Section Beam-Columns.
Cooperation: with National Advisory Committee for Aeronautics.
Investigator: Dr. J. E. Younger, in charge.

The members of the College of Engineering faculty have been encouraged to utilize their summer vacation period to make professional contacts and

keep abreast of the developments in the engineering field. Following is a list of the activities of some of the members of the engineering faculty during the past two summers.

Summer of 1937

Professor R. B. Allen, Instructor, Yale University Surveying Camp, East Lyme, Connecticut.

Professor Myron Creese, attending Electrical Engineering Conference at General Electric Co., Schenectady, N. Y.

Professor G. C. Ernst, conducting reinforced concrete hinge research, Engineering Experiment Station project.

Professor L. J. Hodgins, Electrical Engineer with Potomac Electric Power Co., Washington, D. C.

Professor H. B. Hoshall, taking course in electric welding offered by Lincoln Electric Co., Cleveland, Ohio.

Professsor J. N. G. Nesbit, making field study on smoke abatement, Engineering Experiment Station project.

Professor M. A. Pyle, Instructor, Yale University Surveying Camp' East Lyme, Connecticut.

Dean S. S. Steinberg, Consulting Engineer, American Road Builders, Association, Washington, D. C.

Summer of 1938

Professor R. B. Allen, Instructor, Yale University Surveying Camp, East Lyme, Connecticut.

Professor G. C. Ernst, conducting reinforced concrete Mesnager hinge tests, Engineering Experiment Station project.

Professor H. B. Hoshall, taking advanced course in electric welding with Lincoln Electric Co., Cleveland, Ohio.

Dr. W. J. Huff, Consulting Engineer, U. S. Bureau of Mines.

E. J. Lindahl, Test Engineer, with Pennsylvania Water and Power Co., at Holtwood, Pa.

John Lowe, engineer with Raymond Concrete Pile Co. on borings in Chesapeake Bay for proposed bridges.

Dr. G. M. Machwart, Instructor, summer session, Ohio State University.

Professor J. N. G. Nesbit, making field study on smoke abatement, Engineering Experiment Station project.

Professor M. A. Pyle engineer of surveys on primary bridge program of State of Maryland.

Dean S. S. Steinberg, Surveys Consultant for J. E. Greiner Co., Consulting Engineers, Baltimore, Md. on $30,000,000 primary bridge program of Maryland State Roads Commission.

Dr. J. E. Younger, Consulting Engineer, the Curtiss-Wright Airplane Corporation, St. Louis, Mo.

In cooperation with the International Association of Chiefs of Police, the Maryland State Police Department and the Baltimore Police Department, the College of Engineering has conducted for the past two years an annual training school of two weeks' duration for traffic officers throughout the State. The instructors at this school have been some of the outstanding traffic engineers, police officers, and safety experts in the United States. The attendance in 1937 was 45, and the attendance in 1938, 31.

On December 22, 1938, the Public Works Administration placed the Civil Engineering Materials Testing Laboratory on its approved list for the testing of all materials entering into the University's two and one-half million dollar building program. A testing engineer has been appointed to carry on this work.

During the biennium we organized an Engineering Student Council consisting of elected representatives of the several classes and the presidents of the various societies in the College of Engineering. The purpose of this Council is to advise with the dean concerning all matters of student interest, comfort, and convenience; to coordinate the public, social, and technical activities of engineering students, and to promote unity of interest of the students in the different departments. As a result of the meetings of this Council, many improvements have been made in faculty-student relations and an esprit de corps developed among the engineering students that has been invaluable.

The Graduate School

DR. C. O. APPLEMAN, Dean

THE Graduate School has general jurisdiction over the graduate work offered by the various departments of the university. It also establishes and administers the formal requirements for advanced degrees. In the report for the previous biennium is set forth in some detail the general functions of the Graduate School and the interests served.

The Graduate School is endeavoring to maintain a reasonable balance between the number of graduate students and the facilities for instruction on the graduate level, including adequate direction of student researches. With mass instruction it is difficult to maintain the direct personal relationship between student and instructor which is so essential for sound graduate work.

The enrollment of graduate students for each year of the biennium is shown in the following table:

	1936–1937	1937–1938
Regular academic year		
College Park	310	347
Baltimore Professional Schools	30	26
Summer School	259	268
	599	641
Less duplicates	52	52
Grand total for year	547	589

The total enrollment includes 114 students for the first year of the biennium and 98 for the second year of the biennium who were enrolled for evening courses only. It also includes a considerable number of part time day students at College Park.

The extension of graduate work throughout the university has been especially notable in recent years. The first year the graduate school was established, in 1919, only five departments offered courses for graduates only. During the second year of the last biennium 21 departments in College Park and 9 departments in the professional schools at Baltimore announced one or more 200 courses, which are for graduates only. The number of such courses announced in the catalogue is always considerably larger than the number actually offered in any one year. The following figures show the number of 200 courses and semester hours announced and the number offered in each year of the biennium. Research courses are not included.

	1936–1937	1937–1938
Number of 200 semester courses announced in catalogue	198	208
Number of 200 semester courses actually offered in schedule	137	147
Number of semester hours in 200 courses announced in catalogue	457	483
Number of semester hours in 200 courses actually offered in schedule	333	351

During the year 1935-1936 the number of courses on the 200 level announced in the catalogue was 176, so there was a steady increase in such courses during the three year period. Of equal importance to this increase in the number of courses for graduates only there has been developing a more serious and sustained interest on the part of the faculty in general in scholarly activities.

The following table will show the advanced degrees that were conferred during the past biennium:

	1936–1937	1937–1938
Master of Arts and Master of Sciences	55	63
Doctor of philosophy	17	17
Total	72	80

College of Home Economics

THE enrollment of the College of Home Economics in the past two years has grown from 159 to 215, an increase of 35.2 per cent. Five new members have been added to the staff; three were replacements, two were new positions.

A number of changes have been made in the curriculum and in the courses offered. Due to requests from students for more training in art leading to positions demanding a combination training of home economics and art, a Practical Art Curriculum has been added. Such positions include clothing specialists, stylists, and interior decorators in department stores. More courses in textiles are being offered and certain revisions have been made in those courses already offered. Courses in food buying and quantity cookery have been added to the food curriculum. Housing, as an important social problem, has been made a unit in the junior home management course and has been offered in the summer sessions.

There have been inquiries within the past few years from men students desiring certain home economics courses and several requests from boys still in high school have come concerning restaurant and hotel work.

A former student, who left college to be married returned to finish her work this year and brought her young son to the home management house. This was the first baby to be in the home management house. The experiment was so successful that it seems advisable at a later date to make this a permanent feature of the management work.

The home economics staff members have emphasized summer experience for students. For the past few years, a large percentage of the students have gained practical experience in the following situations: hospitals in both Washington and Baltimore, cafeterias and restaurants, department stores, camps, playgrounds, and summer hotels. Students come to college with very little experience in homemaking and for this reason they are urged to do home projects during vacation periods. Of last year's student body reporting on summer work, more than three-fourths did special housekeeping projects at home.

Students working for the Master's Degree have done theses on the following subjects: "A Standard of Living Study of Maryland Farm Families," "A Study of the Chemical Changes of Fats During Deep Fat Frying." "A Study of the Food Consumption of the Works Progress Administration Nursery School at the University of Maryland," "Consumer Practices in Buying Canned Fruits and Vegetables in College Park, Maryland," "A Study to Determine the Uses of Rokusum Soy Beans," "A Study of the Lapse of Time Between the Discovery of Nutritional Scientific Facts and Their Publication in Popular Form for the Homemaker."

Alpha Zeta Chapter of Omicron Nu, national home economics honor society, was established at the University in the fall of 1937. Junior students of high scholastic standing are eligible. The Home Economics Club to which all home economics students are eligible has been active in the college club section of the Maryland State Home Economics Association.

In an analysis of all the home economics graduates since that subject was made a part of the work at the University and including the class of 1938, it was found that more than half are married and running their own homes. Such a large percentage of each graduating class marries within two or three years that it has been difficult to supply the demand for graduates for work in business and professional fields. Following is a partial analysis of the types of positions held by alumnae of the College of Home Economics: Five are employed by the gas and electric companies of Washington and Baltimore; two are holding interesting positions in research with advertising companies; one is the first dietitian to be employed by the Pennsylvania Railroad. Several graduates have entered accredited hospital dietetics courses and are holding positions as dietitians in hospitals. Two are home economists with radio stations. Two are employed in Washington department stores as stylist and assistant buyer, respectively. Several have been employed on two special surveys made by the Bureau of Home Economics in the United States Department of Agriculture surveys, a nation-wide study of measurements of children with the idea of revising the sizes of commercial patterns and a study of standards of living of families on relief or W. P. A. Several graduates are holding teaching positions in colleges.

School of Medicine

J. M. H. ROWLAND, Dean

THERE are at present 369 students in attendance as follows: Freshmen, 97; sophomores, 85; juniors, 101; seniors, 87. Of these 196 are from Maryland and 173 are non-resident.

Non-resident students are divided as follows:

California	2	Ohio	2
Connecticut	11	Oregon	1
Delaware	3	Pennsylvania	25
Florida	2	Rhode Island	4
Georgia	5	South Carolina	1
Illinois	1	Tennessee	1
Massachusetts	3	Utah	2
Minnesota	1	West Virginia	27
New Jersey	16	China	1
New York	31	Cuba	1
North Carolina	19	Puerto Rico	14

There are 13 graduates and post-graduate students.

During the session 1937-38 there were 381 students in attendance and 99 graduates. During the last two years the school has provided 214 internes and residents for the hospitals of Baltimore and Maryland.

The outdoor dispensary and clinic continues its work for the ambulatory sick. The dispensary at the Mercy Hospital is also conducted by the instructors of the Medical School, as is the work at the Kernan's Hospital. In conjunction with the Johns Hopkins Medical School all the supervision of the immense clinic at the City Hospitals is carried on, making available for the teaching of medical students this practically inexhaustible clinic.

There were 106,947 visits made to the University Hospital dispensary during 1938; 9,276 admissions to the University Hospital; 19,717 visits made to the Mercy Hospital dispensary; and 8,942 admissions to the City Hospitals. There were 1,989 deliveries performed in the Obstetrical Clinic at the City Hospitals during 1938 and 2,059 deliveries by the University Hospital Obstetrical Department (1,207 in the hospital and 852 in their homes).

The oncological clinic, established in 1930 and provided with 100 mgms. of radium, has increased its usefulness so rapidly that the 548 patient visits during 1930-31, increased to 2177 during 1937-38. In February 1929 and additional 130 mgms of radium was received by the clinic as a gift from the Federated Women's Clubs of Maryland. In addition to the gift of radium there was added the equipment of clinical instruments, protective apparatus, and a lead storage vault. This generous gift from the Federated Womens' Clubs of Maryland was a great boon to the cancer patients as it makes it possible to treat twice as many patients with radium as previously. The rapid growth of this clinic has been of a tremendous advantage to the citizens of the State and City and, in addition, has made available to the senior medical and dental students instruction in the early recognition and proper therapy of tumors.

The Faculty consists of 41 Professors, 9 Clinical Professors, 37 Associate Professors, 31 Assistant Professors, 3 Lecturers, 44 Associates, 61 Instructors, and 71 Assistants, a total of 297.

There have been several new appointments to our Faculty during the last two years. Those who have been appointed to full time positions are as follows:

Dr. Wm. R. Amberson, Professor of Physiology
Dr. D. Conrad Smith, Associate Professor of Physiology
Mr. Edwin P. Hiatt, Instructor in Physiology
Dr. James G. McAlpine, Associate Professor of Bacteriology
Mr. James C. Lipsett, Assistant Professor of Gross Anatomy
Dr. Robert H. Oster, Assistant Professor of Physiology
Dr. Joseph C. Solomon, Assistant Professor of Psychiatry
Dr. John H. Mills, Associate in Medicine

During the last two years the school has suffered the loss by death of several staff members:

Dr. Randolph Winslow, Emeritus Professor of Surgery
Dr. Nathan Winslow, Professor of Clinical Surgery
Dr. Frank S. Lynn, Professor of Clinical Surgery
Dr. Julius Leyko, Instructor in Surgery
Dr. Harry Adler, Trustee of the Endowment Fund
Dr. A. M. Evans, Associate Professor of Surgery

The School of Medicine of the University is continuing to supply to rural Maryland about the only additions to the number of practicing physicians in rural districts. Ability to do this has been increased materially by the scholarships established by the Warfield and Cohen funds, which are granted to students who agree to spend at least two years in rural districts selected by the Medical Council after completion of their medical school and hospital work.

Fellowships have been arranged in Pathology, Anatomy, Physiology, and Histology and Embryology, Neuro-Surgery, Medicine, and Surgery through benefactions of the Weaver and Hitchcock Funds. These are in addition to the fellowship in Pharmacology previously established by the late Isaac E. Emerson.

In addition to these fellowships, there have been several grants as follows:

Department of Pharmacology—Dr. Krantz

U. S. Pharmacopeia—$2,000 per year—has been held two years.
International Cancer Research Foundation—$1,000 per year—has been held two years.
American Medical Association—$250 to be used for supplies in research.
Ohio Chemical Company—$500 to be used for supplies in research.
American Association for the Advancement of Science—$150 to be used for supplies in research.
National Formulary Committee—$400.
Atlas Powder Company—$2,500.

Department of Anatomy—Dr. Uhlenhuth

Rockefeller Foundation—$2,500 per year—has been held two years.

Department of Anatomy—Dr. Figge

American Association for the Advancement of Science—$250.

The Frank C. Bressler Research Laboratory, being built partly from the Bressler bequest and partly from Federal funds, will furnish not only well equipped research quarters for all the departments of medicine, but in addition will provide new laboratories for the teaching

of Anatomy, Physiology, and Pharmacology. This building will be furnished and ready for occupancy early in the session of 1939-40. The completion of this building with the additional stories being built on the new hospital and the increasing efficiency and usefulness of the outdoor clinic now housed in the old hospital building will give us the best physical equipment in the shape of pre-clinical laboratories, clinical facilities, and research laboratories the medical school has ever had. A more complete organization for the dispensary and new hospital facilities for psychiatric hospitalization and teaching is needed.

Our library has been considerably improved both in space and appearance. Additional stacks have been provided in the basement; additional journal racks, lockers, file cabinets, and book trucks have been provided. The entrance to the building has also been improved. Cataloging is being brought up to date. The library now has about 18,500 volumes, receives 225 medical journals, 44 of which are foreign journals. Increased accomodations in the matter of space and equipment and greatly increased expenditures for books and personnel will be needed before the library will be as useful for students and faculty as is desirable.

The University Hospital is operated as the teaching hospital of the Medical School. It reaches and serves a large number of persons throughout the State in free service, the total free patient days in 1938 totaling 76,723. The cost to the hospital of the pay patient is $4.29 per day, while the estimated cost of ward patients is $3.50 per day.

The hospital to the Medical School is just as necessary as instruments to a surgeon, as a laboratory for the teaching of chemistry. If the hospital is to continue the amount of free work it has been doing it will need greater support from the State.

School of Nursing

ANNIE CRIGHTON, Superintendent of Nurses

BECAUSE the function of nursing and the responsibilities for human life and welfare devolve upon nurses, the personal and educational standards have been given deep and thoughtful consideration. Because nursing is a cooperative and social institution, the modification of the point of view and the broadening of the interests of those responsible for the administration and also those responsible for the enunciation of the educational policies of Schools of Nursing have been kept constantly in mind. Today the professional nurse is a graduate of a good School of Nursing which is an educational institution and which should have as its primary function the preparation of professional nurses. As a professional school it should provide for its students an educational program which includes those elements that are characteristic of a true professional education and which is planned in special reference to both the students' needs and the health

and sickness needs of the community. In addition it should provide the conditions essential to making an educational program effective. It should also concern itself with the type of student it admits and the product it graduates, aiming always to add to the profession of nursing only those who have achieved mastery of the fundamental scientific principles which underlie and guide nursing practice and a mastery of the technical and social skills which constitute the art of nursing, combined with the development of that spirit of professional service which obligates one to give the best possible service to those to whom one ministers.

As the number of applicants for admission are so great we are enabled to select only those students whose records and references indicate a high scholastic average, excellent physical condition, emotional maturity, a personality of the highest order as well as a deep-rooted sympathy in human beings who are in trouble. With such a selection of students a revision of the curriculum has become necessary and this is now in process in accordance with the "New Curriculum Guide" published recently by the National League of Nursing Education. Definite progress has been made but more will come slowly, until further financial assistance is available for the School of Nursing. This will permit needed changes, such as additional courses in sociology, physical education, etcetera; additional instructors, especially clinical and public health, shorter working hours for the student, allowing more freedom for study and recreation in accordance with a better educational program and facilities for same; and adequate housing accommodations.

This type of student has necessitated the up-grading and better preparation of staff nurses. The staff nurse is more conscious of the need for advanced courses of study to meet this demand and many are attending extramural courses in "Ward Management and Teaching" given by Teachers College, Columbia University, and others are attending various night courses in Education, Psychology, Sociology, etcetera at Hopkins University.

The Retirement Plan for staff nurses has been of great importance not only to our own but is also serving as a stimulus for other institutions. It seems to be bringing about a longer tenure of office.

There is an increased demand for our graduates and positions are open which we are unable to fill. Neither do we find any unemployment among our graduates whom we find engaged in all branches of nursing and scattered in various places over the world.

Summary of outstanding developments:

1. Selection of students of high scholastic ability, excellent physical condition and emotional maturity.
2. Greater enrollment of students taking combined Nursing-Arts Course.
3. Beginning of a revision of the Curriculum of the School of Nursing in accordance with the New Curriculum Guide as given by the National League of Nursing Education.

4. Increased interest and demand by staff nurses for advanced course in professional and cultural subjects.
5. Up-grading and better preparation of staff members.
6. Retirement Plan for staff nurses.

Dental School

DR. J. BEN. ROBINSON, Dean

In the last report of the Dental School reference was made to a noticeable decline in enrollment.. This decrease was particularly true of the class to be graduated in 1940. As pointed out in the former report the reduced enrollment was caused by two factors: the changing of the predental requirements from one to two years and the advanced qualitative standards fixed for admission. We are glad to report that the reduced enrollment was temporary; for the subsequent two classes admitted have shown a decided increase in numbers, a fact which suggests that in the near future the enrollment in the Dental School in all classes will be back to normal.

The question of a stable maintenance fund to support adequately a high quality of instruction continues to be a problem with which the Dental School must contend. Professional schools find it difficult to secure and to hold trained teachers, particularly in the clinic courses. Because of the unusual opportunities it presents, the practice of dentistry offers superior financial advantages to capable dentists with the result that competent men are attracted away from teaching. This competition of private practice with teaching is a serious problem in dental education and makes the situation sensitive to lowered funds that mean reduced salaries or lack of promotion of teachers whose services require it. Since the Dental School must depend to a large degree upon income from student fees (85% of total budget) a reduction in enrollment has proved damaging to the teaching program. It is hoped that a sufficiently large and permanent State appropriation can be guaranteed the Dental School in order to stabilize this situation and to assure a continued high quality in teaching personnel.

For a number of years the Faculty of the School of Dentistry has called to the attention of the Board of Regents the necessity for expanding the physical facilities of the School to provide additional teaching space which has been so badly needed. While the new building constructed in 1929 met the minimum requirements for acceptable teaching at that time, there has been significant expansion in the scope of dental education. New departments essential to the training of dental practitioners have been added, some have been expanded, others have been improved; graduate and postgraduate opportunities are being demanded by the profession and research is requiring greater emphasis. After a careful study of needs and an estimate of the cost of necessary additional space it was shown in 1935 that

the Dental School urgently needed approximately 17,000 additional square feet of floor space, the cost of which, based on then current building prices, would approximate $80,000. In 1937 the Legislature made an appropriation of $80,000 which, based on the estimated construction costs furnished the School was adequate to meet the existing needs. However, when plans for the building were completed in 1938, the bids submitted showed that the costs of construction had increased so much that the actual additional space possible under the appropriation was far less than the original estimated requirements. The new addition as now planned provides for the expansion of but three departments and the addition of a Museum; it does not include additional class-rooms necessary for dentistry and for the relief of the School of Pharmacy; it does not provide adequate office space for full-time teachers; it does not provide additional library and reading-room space; it makes no provision for student recreation rooms; it does not include post-graduate or research facilities. It is to be hoped that these needs will continue to be a matter of deep concern to the University authorities and to the Legislature until the situation is satisfactorily cared for.

The need for a closer cooperation between medical, dental and pharmaceutical teaching through so-called University departments has been recognized by the Baltimore Schools of the University. A recent effort has been made to consolidate the teaching facilities in the health service schools in Baltimore. The purpose is to create a more rational condition in the University relating to the teaching of the biological sciences; it is expected that there will result a more effective program than the present plan of independent teaching of the same subjects by the various health service units. Plans to achieve this desirable end have been seriously discussed, and it is to be hoped that they will be consummated in the near future.

Certain changes have been made in the educational qualifications for teachers in the Dental School. It is recognized that mere undergraduate preparation is insufficient training to equip instructors for classroom, laboratory or clinic teaching. The new requirement of graduate study for appointment to teaching positions in the biological sciences in bringing into the faculty new teachers who are splendidly equipped to meet their responsibilities. They not only are prepared to meet satisfactorily all teaching problems but are equipped to conduct investigation and research that will advance knowledge in their respective fields of study. Under this plan a noticeable improvement is being observed in the educational and formal disciplinary qualifications of those being added to the roll of teachers. If the Dental School is to continue in its place among the better dental schools of the country it is highly desirable that it secure the best trained teachers, provide them adequate teaching and research facilities, and guarantee them reasonable salaries.

During the past two years the teachers in the Dental School have made notable contributions to dental literature, have contributed materially to furthering the education of the practitioners by lecture and clinic work before societies, have assumed leadership in matters of professional interest, and have in all respects met their fullest responsibilities.

The School of Law

ROGER HOWELL, LL.B., PH. D., Dean

THE Law School, in common with other Law Schools in the United States, has been faced more and more with the difficulty of giving adequate preparation for the practice of law under modern conditions within the confines of the traditional three year course. Particularly during recent years, the rapid growth and development of our system of law in an increasingly complex society have resulted in the creation of new fields of law with which the practising attorney must become acquainted, while at the same time the older fields have lost none of their fundamental importance to him. The Law School has followed the example of other schools in attempting to meet the need for instruction in such new fields by a system of elective courses in the upper classes, under which system, however, it is not possible for the average student to take more than a portion of the courses available. While the undesirability of unduly extending the period required for preparation to enter the legal profession is recognized, it is felt that serious consideration should be given to lengthening the law school course, both in order to enable the students to take more of the available courses and to allow the giving of more time to instruction in individual subjects than is possible within the present three-year course.

Since the last report, a course in Administrative Law has been added, the course in Conflict of Laws has been lengthened, and a re-arrangement made of the courses in Property. The growth in importance of Administrative Law in recent years has been widely recognized and stressed by many leaders of legal thought in this country. It has become almost overnight a field of major significance in present-day law, and the need of offering instruction therein has been stressed in prior reports.

As stated in prior reports, it is strongly felt that it is the duty of teachers of law not only to teach but also to contribute, by their writings and participation in professional activities, to the general advancement of legal science. Perhaps no one activity of the Law School has received more favorable attention from the Maryland bench and bar than the Law Review, which is now in its third year. Members of the faculty have also continued with the Maryland annotations to the American Law Institute Restatements, the scope and importance of which had been mentioned in prior reports. Since the last report, the Conflict of Laws annotations by Professor Reiblich have been completed and published, and the Trusts annotations, also under his direction, should be completed within the next year. Good progress has been made by Professor Reno on the Property annotations.

The following publications by members of the Law School faculty have appeared during the past biennium:

Bridgewater M. Arnold:

Conditional Sales of Chattels in Maryland, in 1 Maryland Law Review 187.

Review of Trimble, Chief Justice Waite, in 2 Maryland Law Review 300.

Herbert M. Brune, Jr.:

Constitutional Aspects of Reduction in State Property Tax, in 2 Maryland Law Review 49.

Review of Cairns, Tax Laws of Maryland, Annotated, 2nd ed., in 2 Maryland Law Review 179.

Huntington Cairns:

Tax Laws of Maryland, Annotated, 2nd ed., pp xviii, 516.

History and Constitutionality of the Maryland Income Tax Law, in 2 Maryland Law Review 1.

Freedom of Expression in Literature, in Annals of American Academy of Political and Social Science, November 1938.

James T. Carter:

Survey of the Maryland Income Tax Law, in 2 Maryland Law Review 11.

W. Calvin Chesnut:

The English Courts—Recent Proposals for Better Despatch of Business, in 1 Maryland Law Review 277.

Walter L. Clark:

Review of Wigmore, The Science of Judicial Proof, in 26 Georgetown Law Journal 1092.

Review of Osborn, The Mind of the Juror, in 2 Maryland Law Review 299.

George Gump:

The Meaning of "General" Powers of Appointment Under the Federal Estate Tax, in 1 Maryland Law Review 300.

Review of Powell, Cases on Future Interests, 2nd ed., in 24 Virginia Law Review 826.

Roger Howell:

Review of Corwin, The Commerce Power Versus States' Rights, in 1 Maryland Law Review 184.

Review of Frankfurter, The Commerce Clause Under Marshall, Taney and Waite, in 2 Maryland Law Review 180.

Review of Trimble, Chief Justice Waite, in 26 Georgetown Law Journal 1089.

Review of Dodd, Cases on Constitutional Law, 15 New York University Law Quarterly Review 310.

Frederick W. Invernizzi:

Review of Crane, Handbook of the Law of Partnership and Other Unincorporated Associations, in 2 Maryland Law Review 386.

Emory H. Niles:

Review of Herbert, The Uncommon Law, in 1 Maryland Law Review 181.

G. Kenneth Reiblich:

Maryland Annotations to the American Law Institute Restatement of the Law of Conflict of Laws, pp. 214.

Jurisdiction of Maryland Courts over Foreign Corporations Under the Act of 1937, in 3 Maryland Law Review 35.

Review of Lasson, The History and Development of the Fourth Amendment, in 2 Maryland Law Review 83.

Russell R. Reno:

Alienability and Transmissibility of Future Interests in Maryland, in 2 Maryland Law Review 89.

John S. Strahorn, Jr.:

A Rationale of the Haddock Case, in 32 Illinois Law Review 796.

A Lawyer's View of Vital Statistics, in 27 American Journal of Public Health, 1207.

A Reconsideration of the Hearsay Rule and Admissions, in 85 Pennsylvania Law Review 484, 564.

Void and Voidable Marriages in Maryland and Their Amendment, in 2 Maryland Law Review 211.

The Supreme Court Revisits Haddock, in 33 Illinois Law Review 412.

Review of Reiblich, Maryland Annotations to the Restatement of Conflict of Laws, in 1 Maryland Law Review 364.

Review of Morris, How Lawyers Think, in 2 Maryland Law Review 182.

Review of Lorenzen, Cases and Materials on the Conflict of Laws, in 12 Temple Law, Quarterly 428.

Review of Aigler, Cases on Negotiable Paper and Banking, in 24 Virginia Law Review 467.

Faculty members have also been active in Bar Association and Law School Association work. Dean Howell was Chairman of the Committee on Non-Member Schools in 1937 and a member of the Committee on Cooperation with the Bench and Bar in 1938 of the Association of American Law Schools; a member of the Committee on Laws of the State Bar Association in 1938; a member of the Committee on Law Institutes in 1937 and of the Committee on Legal Publications and a Special Committee on the Election of Judges, of the Baltimore City Bar Association in 1938; and a member of the Advisory Committee on Cooperation Between the Law

Schools and the Bar of the Section of Legal Education and Admissions to the Bar of the American Bar Association in 1938. Mr. Bryan was a member of the Committee on Public Utility Law of the American Bar Association in 1937. Professor Brune was a member of the Associate and Advisory Committee on Pre-Trial Procedure of the American Bar Association, and Chairman of the Committee on Law Institutes of the Baltimore Bar Association, in 1938. Judge Chesnut was Chairman of the Committee on Trial Practice of the Section of Judicial Administration of the American Bar Association in 1938. Professor Reiblich was a member of the Council of the Equity Round Table of the Association of American Law Schools in 1937, and is a member of the present Committee on Laws of the State Bar Association. Professor Strahorn was a member-at-large of the Associate and Advisory Committee to suggest Improvements in the Law of Evidence of the American Bar Association, and of the Committee on Reprinting Leading Articles of the Association of American Law Schools, in 1938.

Eighteen second and third year students of the Law School in 1938 acted as volunteer assistants in securing data for the committee appointed by Governor Nice on the re-organization of the Peoples' Court in Baltimore City. The extensive and valuable report of this Committee was largely based on the data so assembled, and full acknowledgment of the value of the students' services was made therein.

The completion of four tiers of additional stacks in the Library during 1937-38 has relieved the very pressing need emphasized in the last report, and has enabled a considerable expansion of library material, as well as a much-needed re-shelving of material on hand. The present library accommodations should take care of normal expansion for many years.

It is felt that the Law School, from the standpoint of curriculum, faculty and physical accommodations is at present in very satisfactory condition. Changes in the curriculum will, of course, be necessitated from time to time, in order to keep pace with changing developments in our legal system, but radical experiments similar to those now in process at a few large schools are regarded as undesirable. As at present constituted, the course of instruction will, it is believed, compare favorably with those of other American schools.

An indication of the steady advance in the standing of the School in the field of legal education was furnished in 1938, when it was granted a charter by the Order of the Coif, the legal honorary fraternity which corresponds to Phi Beta Kappa in the academic field, and which has recognized only those law schools in the front rank of legal education.

The School of Pharmacy

DR. A. G. DuMEZ, Dean

DURING the past two years, the staff of the School of Pharmacy has given particular attention to the revision of entrance requirements, to improvement of the curriculum and the instruction offered and to the development of graduate work.

After consultation with representatives of the Maryland Pharmaceutical Association and the State Board of Pharmacy, entrance requirements to the School of Pharmacy were raised to require certification by high school principal for admission, with the exceptions as set forth in the catalogue. In addition, all applicants for admission are required to appear before a committee of the faculty for a personal interview and be approved.

The staff in Bacteriology has been strengthened by the appointment as its head of an Associate Professor on a full-time basis and instruction in the Department has been further improved by a revision of the courses. Instruction in Botany and Pharmacognosy has been placed on a sound academic basis by the appointment as head of the Department an experienced young man holding the Doctor of Philosophy degree. The whole curriculum from the standpoint of instruction in the biological sciences has been strengthened by these changes and by instituting laboratory work in physiology. Instruction in pharmacology and chemistry has been improved by a judicious revision of some of the courses. Based on the results of the foregoing changes, requirements for graduation have been raised to a "B" average in the subjects of the last two years of the curriculum. Further improvements in the courses in chemistry and pharmacology are dependent on securing additional space in which special apparatus may be permanently set up and in which additional laboratory animals can be housed. Space for housing additional laboratory animals is also urgently needed by the Department of Bacteriology.

Graduate work in pharmacy, chemistry and pharmacology was further strengthened during this period and it is believed that it is now on a sound basis. We are now accommodating all of the graduate students we have facilities for and the number seeking to do graduate work with us is constantly increasing. Additional space will be needed if additional graduate students are to be accommodated. This is a need which should be given serious consideration as the demand from the pharmaceutical industries for young men and young women who have completed their graduate work in our school far exceeds the supply. We were unable to satisfy at least fifteen requests for our graduate students in the past year. There appears to be an unusual opportunity for us to develop the outstanding school for graduate work in pharmacy in this country.

The most important addition to our faculty during the biennium, in reality a replacement, was the appointment of Dr. C. W. Chapman as the Emerson Professor of Pharmacology to succeed Dr. M. R. Thompson who resigned to accept the Directorship of the Warner Institute for Therapeutic Research. Dr. Chapman was formerly employed as a Bio-Assayist in the Department of Health and Insurance of the Canadian Government. He has had wide experience in the fields of bio-chemistry, pharmacology and bio-assaying and has published extensively on the results of his research in these fields.

Dr. Thomas C. Grubb, who was appointed head of the Department of Bacteriology, is also a man with exceptional qualifications and wide experience. He was at one time a bacteriologist in the Illinois State Department of Health and came to us from the Maryland State Department of Health.

The University Libraries

CARL W. HINTZ, Librarian

THE last two years has witnessed significant changes in the Library organization, has seen an exceptional number of volumes added to our collections, and has compassed the merger of the Grieves Library Foundation of the Maryland State Dental Society and the Dental Library.

In September 1937, the present Librarian took charge of the Baltimore and College Park Libraries. This marked the first step in a program designed to correlate and develop library resources of the University as a unit under central control. Much time and attention during the past year has been devoted to surveying the Baltimore situation. The results of this survey, together with proposals for reorganization, were presented in preliminary form in May 1938.

The Staff of the College Park division was materially strengthened by the appointment of three qualified librarians in October 1937. These appointments, supplying a long felt need, have gone far toward improving our library situation.

The Staff has been active professionally through membership in state, regional, and national library organizations and through attendance at meetings. Mrs. Getchell served as Maryland representative on the Council of the Maryland, Virginia, and District of Columbia Group of Catalogers, Classifiers, and Bibliographers. Miss Hook gave a paper on "Federal Aid to Libraries" at the Fall 1937 meeting of the Maryland Library Association and I addressed the Spring 1938 meeting of the Association on "Library Developments at the University of Maryland." The Librarian served as representative from Maryland to the Middle Eastern Library Association

and at the Spring 1938 meeting was elected to a vice-presidency. Mr. Fogg has been active in affairs of the local chapter of the American Association of University Professors.

Volumes in the University Libraries on September 30, 1938 totalled 122,678, distributed as follows:

College Park		
General Library		75,848
Baltimore		
Dentistry	6,150	
Law	15,266	
Medicine	18,500	
Pharmacy	6,914	
	46,830	46,830
		122,678

Accessions

The number of volumes added to the University Libraries during the biennium totalled 21,200, distributed as follows:

College Park		
General Library		15,989
Baltimore		
Dentistry	731	
Law	1,686	
Medicine	1,959	
Pharmacy	835	
	5,211	5,211
		21,200

The figures for the College Park division are particularly interesting and will bear further analysis and comment in comparison with those of previous years.

Biennium 1934-36		**Biennium 1936-38**	
1935–35	4,105	1936–37	5,149
1935–36	4,455	1937–38	10,840
Total	8,560	Total	15,989

In other words 86.7 per cent more volumes were added during the biennium 1936-38 than in the preceding one and 110 per cent more volumes were added in 1937-38 than in 1936-37. In order to handle the greatly increased volume as efficiently as possible the entire order and bookkeeping procedure was revised during 1937-38.

Much of the material added at College Park consisted of runs of journals and of sets needed to strengthen our holdings in various fields. Some of the most important acquisitions were:

Early English Text Society. Publications. 101 volumes.
Shakespeare Quarto Facsimiles. 43 volumes.
Malone Society Reprints. 70 volumes.
Bibliographical Society Transactions. 35 volumes.
Gmelin's Handbuch der Anorganischen Chemie.
Ullmann's Enzyklopadie der Technischen Chemie.
Enciclopedia Italiana.
Hoppe Seyler's Zeitschrift fur Physiologische Chemie. 41 volumes.
Liebig's Annalen der Chemie. 51 volumes.
Institution of Mechanical Engineers. Proceedings. 86 volumes.
Journal of Social Psychology. Complete set.
Journal of Abnormal and Social Psychology. Complete set.
Journal of Applied Psychology. Complete set.
Occupational Psychology. Complete set.
Psychometrika. Complete set.
National Institute of Industrial Psychology. Complete set.

Omissions of earlier years, caused by lack of purchasing power, have been partially rectified. Needless to say, postponement of purchase of needed materials is bound to be more expensive in the long run as many titles go out of print in a short time and are then available only after extended search and at a higher price.

It is impossible to mention by name all those who have given books to our libraries. Especial thanks, however, is due Mr. A. L. Geiger, of Kensington, Maryland, who gave 418 volumes to the General Library. After some negotiations with Dr. Wheeler, Librarian of the Enoch Pratt Free Library, Baltimore, we received as a gift from that Library 147 volumes for our young but rapidly growing Maryland Collection. The total number of volumes received by gift during 1937-38 was 1,086.

The outstanding acquisition of the Baltimore Libraries was that of 600 volumes from the Library of Dr. Hermann Prinz, Professor of Pharmacology in the University of Pennsylvania Dental School, by the Dental Library. Several rare and interesting volumes on early dental science are included in the collection. The Law Library states that with the acquisition of the Maine and New Hampshire Reports the collection of Reports of American State Courts of last resort is now complete.

Circulation figures show an increase of 10½ per cent over those of the preceding biennium with a total circulation of 138,142, distributed by type of loan as follows:

Year	Home Loans	Used in Building	Reserve Books	Total
1936–37	19,686	Combined with Home Loans	48,877	68,563
1937–38	23,033	4,786	41,760	69,579
Total	42,719	4,786	90,617	138,142

The decrease in the use of reserve books and the corresponding increase in use of other books in 1937-38, as compared with the preceding year, may indicate that individual study and investigation are being encouraged rather than the reading of a specified number of pages.

The increase in staff, already referred to, has made it possible to have a qualified member on duty at the reference desk at practically all times that the Library is open. Since October 1937, the Library has been open 82 hours a week during school sessions, an increase of 2½ hours over previous schedules.

The establishment of a small "Open-shelf Collection" in the Delivery Hall last spring has proved very successful. There is scarcely a time during the day when one or more students are not to be found browsing among some two hundred volumes of "readable books" which are shelved here. Further support of one of our objectives; namely, the stimulation of reading among students, has been sought by means of attractive and interesting displays.

The purchase of an Argus Microfilm Reader now enables us to secure material not otherwise available, on film from other libraries.

Baltimore

Circulation figures by Libraries follows:

Year	Dentistry	Law	Medicine	Pharmacy	
1936–37	2,478	No	2,219(1)	2,836	(1) Jan.-Sept. 1937 only
1937–38	4,670	record	5,625(2)	2,929	(2) Includes overnight
		kept			loans.
Total	8,158		7,844	5,815	

Analysis of the above figures shows a sharp increase in use during the second year of the biennium for the Dental and Medical Libraries. The increase in circulation of materials from the Medical Library is undoubtedly due to a more liberal lending policy, adopted October 1937, and designed to make facilities as available as possible to patrons, as monthly figures have shown a steady increase from that time forward.

The facilities of an enlarged staff were fully taxed to handle the unprecedented flow of material during the second year of the biennium. The following table testifies to the increase volume:

Classification and Cataloging

Year	Number of volumes	Cards made for Catalog	Cards made for Shelflist
1936–37	5,018	10,185	2,856
1937–38	10,405	25,990	6,343
Total	15,423	36,175	9,199
	Reclassification and Recataloging		
1936–37	708	1,329	426
1937–38	3,563	4,844	1,137
Total	4,271	6,173	1,563
Total	19,694	42,348	10,762

Comparison of the above figures with those of the preceding biennium shows that 83 per cent, or 8,989, more volumes were handled; 66 per cent, or 16,985, more catalog cards and 144 per cent, or 6,368, more shelf cards were made during 1936-38. Most of the increase came during the second year of the biennium.

The number of volumes which it was found necessary to reclassify and recatalog points to the fact that the classification scheme is not static. Constant revision is necessary to rectify inconsistencies which appear with the acquisition of new material and to provide for necessary growth.

The mechanical preparation of books was considerably simplified by revising the routine, eliminating the accession book, changing the form of the book plate, and increasing the trade information placed in the book. The latter change has made it possible to notify departments as soon as books which they have requested are ready for circulation. In addition to this a complete list of accessions for the previous period is sent to every faculty member once a month.

During the past year our "Textbook Collection" has been classified and cataloged. This represents a step forward and necessitated the development of a classification scheme which would be simple yet adequate for our purpose.

Through funds secured from the Grieves Library Foundation it was possible to employ a trained librarian from July 1, 1937 to June 30, 1938 to classify and catalog books in the Dental Library. During this period 1,152 volumes were processed. The termination of this assistance with the merger of the Foundation and the Library means that we are again falling behind in this respect.

As is customary with most small and medium sized law collections the Law Library catalogs but does not classify its books. Work in this respect is up to date.

In the Medical library classification and cataloging have kept pace with accessions. The outstanding development in this phase of the work was the

decision to establish a shelf list. Work on this began January 1938. The catalog, which now contains entries for departmental library holdings, is in process of revision. Old manuscript cards are being replaced with Library of Congress cards wherever possible.

The Pharmacy Library reports that all books and journals are classified and cataloged to date.

The crowded condition of the library building at College Park is self-evident. In January 1938, additional stacks housing some 15,000 volumes were erected on the top floor. These are now full and there is absolutely no space for further expansion within our present limits. Not only are we hampered by lack of space for books but accommodations for readers are entirely inadequate to care for the increased enrolment. The reading room, which now contains 236 seats instead of the 200 which is its proper capacity, is frequently crowded. Needless to say, study conditions are not of the best under such handicaps.

Plans looking toward utilization of the entire building for library purposes, increasing book capacity by 60 per cent and reader capacity by 40 per cent, were prepared and submitted for consideration last spring.

In the fall of 1937 the Medical Library building was remodelled. Among other things a concrete floor was laid in the basement and stacks housing approximately 5,000 volumes installed. Space for additional stacks is available and these should be erected as soon as possible.

The stacks housing the Dental and Pharmacy collections are rapidly nearing the saturation point and cannot be expanded in their present location. A reassignment of space, which will provide greater book and reader capacity and more suitable working quarters for the staff, was included in the proposals for reorganization of the Baltimore Libraries, submitted May 1938 and previously referred to. The final unit for the Law Library's book stack was completed in 1938 and provides space for some 20,000 volumes.

Beginning February 1937, a monthly "Bookletter," commenting on half a dozen new books, has been sent tc the Home Demonstration Agents and County Reading Chairmen throughout the State. On several occasions longer lists have been prepared in answer to special requests.

In the spring of 1938 a visit was made to Princess Anne College in order to aid in the selection of books for that institution.

Instruction in use of the Library has been continued by means of a one hour one semester course, which is elective except for students majoring in the Division of Humanities, taught by members of the Library Staff. In view of the basic nature and worth of such instruction consideration should be given to means of extending it.

Department of Military Science and Tactics

COL. J. D. PATCH, Prof. of Military Science and Tactics

THE outstanding developments in the Department of Military Science and Tactics for the past two years are as follows:

(1) The R.O.T.C. Unit earned for both years the War Department rating of "Excellent," which is the best rating given. It is a well known fact that the Headquarters Third Corps Area regards this Unit as one of the very best among approximately twenty other institutions.

(2) For the past two years, both the conduct and the shooting of our summer camp students have been classed as the very best in the camp.

(3) The Military Department has assisted materially in building up and creating from a small band a large efficient R.O.T.C. and Student Band.

(4) The personnel in the Military Department assisted in coaching in various other college activities. Perhaps the most outstanding is the assistance given to our rifle teams. The achievements of these teams are quite remarkable. For the past two years the Maryland Varsity Rifle Team has won the R.O.T.C Rifle Championship of the United States. For the past two years our Freshman Team has won the Freshman Intercollegiate Championship of the United States. For the past three years our team has won the R.O.T.C. Championship of the Third Corps Area. For the past two years our team has won the Hearst Trophy Championship in the Third Corps Area; and finally, our Pershing Rifles team has won the National Championship of the country which is competed for by all Pershing Rifles units. An inspector has stated that we have one of the very best Pershing Rifles units in the United States

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Admissions to The University

W. M. HILLEGEIST, Director of Admissions

HEREWITH follows a report of the number of applications for admission received furing the period of 1937–38, 1938–39:

	1937–1938		1938–1939
College Park (undergraduate)	1,462		1,764 (1)
Baltimore	854		1,050
Dentistry 258 (2)		263	
Law 96 (3)		105	
Medicine 371 (4)		503	
Nursing 88 (3)		109	
Pharmacy 33 (5)		57	
Education 8 (6)		13	
Total	2,316		2,814

(1) The College Park undergraduate total, 1,764, for 1938-1939 is 20.65%-30.00%, 65.32%, and 102.52% greater respectively than for 1937, 1938 (1,462), 1936-1937 (1,297), 1935-1937 (1,067), and 1934-1935 (871).

(2) Most of the schools of medicine have reduced their freshmen class enrolments. The University of Maryland registers less than 100 freshmen as compared to about 125 a very few years ago. This fact may account for the decided increase in dental applications—78 in 1936-1937, and 124 in 1935-1936.

(3) The schools of Law and Nursing are doing better than holding their own—Law, 82, and Nursing, 95, in 1936-1937.

(4) This is a new low figure for Medicine. The School of Medicine began in 1937-1938 to require for admission three years instead of two years of preprofessional study. This may be the main reason for such a noticeable drop in applications—750 in 1936-1937. The 1938-1938 total, 503, is 35.38% more than in 1936-1937.

(5) After a severe falling off in applications in 1937-1938 (33), Pharmacy may be staging a come-back. There were 76 applications in 1936-1937.

(6) The College of Education, College Park, offered for the first time in Baltimore a four-year degree program in vocational education similar to the curriculum at College Park.

The number of applications for admission to the Graduate School during the biennium is 696. This figure compares with "approximately" 420 during the previous two-year period.

Beginning with 1936-1937, the University of Maryland, undergraduate divisions at College Park, and the predental and School of Pharmacy in Baltimore, began to break gently from the nation-wide tradition that any graduate of a public high school was entitled to and eligible for admission to his own state university.

> (The certifying-to-college grade of the Maryland Department of Education, and the Baltimore City Department of Education, is 60% of A's and B's and not any grade lower than "C" in the major subjects in the last two years of high school.)

This modification of the admission requirements involved at the outset only those who were approximately in the lowest decile of their graduating classes. Every applicant who was rejected for scholastic reason was offered the opportunity of taking an admission examination conducted by the Department of Psychology. About 50% of the examinees pass the test. The sole purpose of the change in the qualitative requirement for admission is to reduce the number of potential failures in college. It is very costly in time, money and individual morale for so many low ranking high school graduates to go to college only to find out by bitter experience that they are not qualified by nature or training to meet with success in college.

Next year, 1939-1940, the secondary school graduates in Maryland who finish in the lowest-fifth of their classes may be subjected to the admission examination. In other words, those persons only who complete their high school education in the upper four-fifths of their classes may be admitted without an entrance test.

This moderate advancement in the requirement for admission, should have a salutary effect upon those high school students in Maryland who want to attend the University of Maryland in that the students may be encouraged to apply themselves more diligently in school so as to be reasonably sure that they will have a better chance of gaining admission to the University of Maryland without having to endure an entrance examination. Indirectly, but of the utmost importance, is the reaction among the better students in the Maryland high schools. They will be more interested to apply for admission to the University of Maryland because there is in operation a selective admission system. Possibly, heretofore, high school students in Maryland were not stimulated to do their best because they knew their entrance to the University of Maryland would not be barred if their records were poor. In due time, the improvement in the average of the high school grades in Maryland (including Baltimore) should be noticeable. In dealings with graduates of approved secondary schools not in Maryland (or the District of Columbia), we respect the scholarship standard of each school.

> A graduate of an approved secondary school not in Maryland or the District of Columbia must be recommended by the principal, and meet the certifying-to-college grade of his school. If the school does not have such a grade the applicant must have a scholastic record of at least ten points, or one letter, higher than the lowest passing grade of the school. A non-certified applicant may request an entrance examination.

This institutional attitude cannot but gain for the University of Maryland the goodwill, so to speak, of the principals and headmasters of the accredited out-of-state schools. By supporting their standards we display a sensible, cooperative spirit, and it may result in enhancing our clientele.

A graduate of a California secondary school came all the way from the Pacific coast to take our July, 1938, entrance test. He passed it. A graduate of a Texas school, who was visiting relatives in Washington, took the same examination. He failed. This young man was distressed that he could not study at College Park, because he had heard "so many good things" about the University of Maryland while he was in Washington. Even with the examination requirement statement in the general catalogue, the number of applications continues to rise steadily. Students, everywhere, prefer a university which selects its students with reasonable care.

The demand for the general catalogue, and the volume of correspondence, are commensurate with the unpredictable yearly increases in the number of applications. Requests for the catalogue seem to come from individuals in

all parts of the country. Being one of less than 300 institutions of higher learning (out of probably 1,500) approved by the Association of American Universities, the name of the University of Maryland appears in all lists of accredited colleges and universities. The University of Maryland, Johns Hopkins University, Goucher College, and the United States Naval Academy are the only Maryland institutions on the list of the Association of American Universities.

"College Night" is held yearly by a large number of high schools. This function is arranged primarily for the senior secondary school students, who are thinking of "going to college," and their parents. The University of Maryland gets a number of "bids" to send one or more representatives to participate in these annual programs. These invitations usually are accepted.

The Department of Psychology instituted at the beginning of 1938-1939 a "clinic" (for educational and vocational guidance, and not psychiatry) which is for a very few Maryland residents who do not meet the academic requirements for admission, either by certificate from high school, or who fail to pass the admission examination, but who are given the opportunity to prove whether they can achieve satisfactorily work of college grade.

Two such young men were admitted to this clinic last fall on condition that they would cooperate with the Department of Psychology in the mutual effort to determine whether they are of university caliber. One student withdrew from college in November, and the other one seems to be "making the grade." Two other male students were admitted in February, 1939, to follow this special experimental relationship with the Department of Psychology. The Director of Admissions has been cooperating since 1921 with the Maryland Board of Examiners of Public Accountants by appraising the non-professional educational records of the candidates for admission to the Certified Public Accountant examinations. Qualified applicants receive a certificate of entrance which is signed by the Director of Admissions, and impressed with the University of Maryland seal. The number of applicants in 1938-1939 was 118; in 1937-1938, 101; in 1936-1937, 62; and in 1935-1936, 73.

Report of the Registrar

ALMA H. PREINKERT, Registrar

HEREWITH, are tables giving information concerning student enrollment, degrees conferred and certificates awarded, and the instructional staff during the years, 1936-37 and 1937-38.

Serving the greatest number of persons in its history, more than 8,000 were in attendance at the various courses and conferences offered by the University in 1937-1938. Of this number nearly 4,000 attended regular courses during the full academic year, with over a thousand in attendance during summer school and about 500 carrying extension courses. Thirteen short courses and conferences were offered by the university and 3,100 persons came to the campus at College Park to attend.

A table showing enrollment trends for five and ten year periods has been included. Particularly significant is the 126% increase in the entire student body at College Park during the past ten years, with even larger percentage increases in the Colleges of Agriculture, Education, Home Economics, and the Graduate School. Over 1,400 were registered in first year classes during 1937-38. A distribution by colleges and sex of this group is shown in Table III.

While the majority of the students come from the State of Maryland, a total of 44 states is represented in the enrollment, and in addition, the Canal Zone, Hawaii, Puerto Rico, the Philippine Islands, and 8 foreign countries.

During the biennium 1,595 degrees and certificates have been awarded, including 3 honorary degrees, 649 awarded by the Baltimore schools and 943 by the College Park colleges.

The instructional staff numbers 732, of this number 384 are in the professional schools in Baltimore and 348 at College Park.

ENROLLMENT OF STUDENTS

COLLEGE PARK

Resident Collegiate Courses:

Academic Year	1936-1937			1937-1938		
	Men	Women	Total	Men	Women	Total
College of Agriculture	221	31	252	277	42	319
College of Arts and Sciences	753	245	998	812	302	1,114
College of Education	109	248	357	104	258	362
College of Engineering	307		307	359		359
College of Home Economics		159	159		180	180
Graduate School	234	103	337	256	112	368
Total Academic Yr. College Pk.	1,624	786	2,410	1,808	894	2,702
Summer School, 1936	447	630	1,077	388	596	984
Total Resident, Collegiate, College Park, Less Duplications	1,846	1,295	3,141	2,006	1,369	3,375
Extension Courses:						
College of Arts and Sciences	30	26	56			
College of Education	134	86	220	168	114	282
College of Engineering	178		178	198		198
Total Resident and Extension Less Duplications	2,166	1,398	3,564	2,354	1,475	3,829
Short Courses & Conferences:						
Rural Women		717	717		785	785
Boys' and Girls' Club	137	303	440	188	413	601
Volunteer Firemen	136		136	136		136
Highway Engineers	127		127	102		102
Sanitary Engineers	53	1	54	35		35
Traffic Officers' Training School				46		46
Canners' Conference	132	2	134	400		400
Florists	188	74	262	146	62	208
Nurserymen	48	7	55	56	3	59
Garden School	24	164	188	200	265	465
Parent Teacher Conference		75	75	22	141	163
C C C Conference	152		152	136		136
Ministers Conference				51		51
Total Short Courses and Conferences	997	1,343	2,340	1,518	1,669	3,187
Total All Courses, College Park Less Duplications	3,163	2,741	5,904	3,872	3,144	7,016

ENROLLMENT OF STUDENTS

BALTIMORE

Resident Courses:

Academic Year	1936-1937			1937-1938		
	Men	Women	Total	Men	Women	Total
School of Dentistry	266	5	271	273	7	280
School of Law	216	8	224	227	12	239
School of Medicine	390	16	406	362	19	381
School of Nursing	.....	126	126	.....	117	117
School of Pharmacy	224	24	248	169	15	184
Total Academic Year Less Duplications	1,096	179	1,275	1,031	170	1,201
Summer School						
School of Dentistry	49	.....	49	17	.....	17
School of Medicine	41	2	43	37	1	38
School of Pharmacy	59	5	64	34	3	37
Total Baltimore Less Duplications	1,129	181	1,310	1,043	173	1,216
Grand Total All Courses, Less Duplications, College Park and Baltimore	4,263	2,916	7,179	4,863	3,313	8,196

ENROLLMENT TRENDS

RESIDENT STUDENT, REGULAR ACADEMIC YEAR ENROLLMENT

	Five Year Period				Ten Year Period			
	1933-34	1937-38	Five Year Change		1927-28	1937-38	Ten Year Change	
			No.	Per Cent			No.	Per Cent
Agriculture	172	319	+147	+85%	124	319	+195	+157%
Arts and Sciences	865	1,114	+249	+29%	549	1,114	+565	+103%
Education	230	362	+132	+57%	139	362	+223	+160%
Engineering	331	359	+28	+8%	233	359	+126	+54%
Home Economics	117	180	+63	+54%	53	180	+127	+240%
Total	1,715	2,334	+619	+36%	1,098	2,334	+1,236	+113%
Graduate	199	368	+169	+85%	96	368	+272	+283%
Total, College Park	1,914	2,702	+788	+41%	1,194	2,702	+1,508	+126%
Dentistry	377	280	—97	—26%	369	280	—89	—24%
Law	199	239	+40	+20%	296	239	—57	—19%
Medicine	458	381	—77	—17%	391	381	—10	—2%
Nursing	124	117	—7	—6%	113	117	+4	+4%
Pharmacy	329	184	—145	—44%	358	184	—174	—49%
Total, Baltimore	1,487	1,201	—286	—19%	1,527	1,201	—326	—21%

Table III

ENROLLMENT IN FIRST YEAR CLASSES

College Park

	1936-1937			1937-1938		
	Men	Women	Total	Men	Women	Total
Agriculture	86	7	93	118	9	127
Arts and Sciences	320	112	432	371	143	514
Education	34	51	85	28	54	82
Engineering	117	.....	117	166	.....	166
Home Economics	.....	58	58	.....	73	73
Total	557	228	785	683	279	962

Baltimore

	1936-1937			1937-1938		
	Men	Women	Total	Men	Women	Total
Dentistry	17	.....	17	77	.....	77
Predental	26	1	27	34	2	36
Law—Day	30	4	34	34	2	36
Evening	9	2	31	46	4	50
Medicine	93	2	95	83	8	91
Nursing	.....	43	43	.....	51	51
Pharmacy	51	8	59	28	4	32
Total	246	60	306	302	71	373

Table 1V

GEOGRAPHICAL DISTRIBUTION OF RESIDENT STUDENTS
REGULAR ACADEMIC YEAR

	College Park		Baltimore	
	1936-1937	1937-1938	1936-1937	1937-1938
Alabama		1	1	3
Arizona				1
California	2	1	1	2
Canal Zone		1	2	
Connecticut	14	14	47	41
Delaware	7	6	8	6
District of Columbia	572	617	14	10
Florida	2	3	5	3
Georgia	3	6	6	7
Hawaii				1
Illinois	3	2	2	2
Indiana				1
Iowa	2	2	1	
Kansas	1	6		
Maine	3	2	3	2
Maryland	1,585	1,811	871	790
Massachusetts	7	3	14	12
Michigan	2	1		
Minnesota				1
Mississippi		1	1	1
Missouri	1	1	1	1
Montana	2		1	
Nebraska		1		
New Hampshire			3	3
New Jersey	47	44	65	66
New York	62	60	61	69
North Carolina	4	4	23	25
Ohio	6	7	2	4
Oklahoma		1		1
Pennsylvania	36	45	50	39
Philippine Islands				1
Puerto Rico	3	3	10	18
Rhode Island		1	11	8
South Carolina	4		4	5
South Dakota		1	1	2
Tennessee	3	5	1	2
Texas		2	1	
Utah	1	1		2
Vermont	1		2	3
Virginia	25	27	24	22
Washington	1	1		
West Virginia	5	13	34	40
Wisconsin	1		1	1
Wyoming	1			
British West Indies			1	1
Canada		3		
Chile	1	1		
China			2	2
Cuba	1	2	1	1
Panama		1		2
Siam		1		
Southern Rhodesia (Africa)	2			
	2,410	2,702	1,275	1,201

	1936–37			1937–38			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Honorary Degrees	.....	.....	0	3	.....	3	3	.....	3
Honorary Certificates of Merit in Agriculture	3	.....	3	3	.....	3	6	.....	6
COLLEGE PARK									
College of Agriculture, Bachelor of Science	33	5	38	40	9	49	73	14	87
College of Arts and Sciences, Bachelor of Arts	65	30	95	54	28	82	119	58	177
Bachelor of Science	43	6	49	41	9	50	84	15	99
College of Education, Bachelor of Arts	4	20	24	9	24	33	13	44	57
Bachelor of Science	24	34	58	25	34	59	49	68	117
College of Engineering, Bachelor of Science	45	.....	45	44	.....	44	89	.....	89
College of Home Economics, Bachelor of Science	.....	23	23	.....	31	31	.....	54	54
Total Bachelors' Degrees:									
Bachelor of Arts	69	50	119	63	52	115	132	102	234
Bachelor of Science	145	68	213	150	83	233	295	151	446
Total	214	118	332	213	135	348	427	253	680
College of Engineering:									
Civil Engineer	2	.....	2	4	.....	4	6	.....	6
Electrical Engineer	1	.....	1	2	.....	2	3	.....	3
Graduate School:									
Doctor of Philosophy	17	.....	17	16	1	17	33	1	34
Master of Arts	7	18	25	19	9	28	26	27	53
Master of Science	26	4	30	26	9	35	52	13	65
Total, Graduate School	50	22	72	61	19	80	111	41	152
Total Degrees in Course at College Park	267	140	407	280	154	434	547	294	841
Teachers' Diplomas	10	36	46	12	38	50	22	74	96

BALTIMORE

	1936-37			1937–38			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
School of Dentistry									
Doctor of Dental Surgery	73	.....	73	66	.....	66	139	.....	139
School of Law									
Bachelor of Laws	49	.....	49	57	.....	57	106	.....	106
Certificates of Proficiency	1	.....	1	3	1	4	4	1	5
School of Medicine									
Doctor of Medicine	110	3	113	98	4	102	208	7	215
School of Pharmacy									
Bachelor of Science in Pharmacy	63	3	66	46	4	50	109	7	116
School of Nursing									
Graduate in Nursing	.....	35	35	.....	33	33	.....	68	68
Total Degrees and Certificates in Course at Baltimore	296	41	337	270	42	312	566	83	649
GRAND TOTAL, All Degrees and Certificates	576	217	793	568	234	802	1,114	451	1,595

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

COLLEGE PARK

1936-37

	Agriculture	Arts and Sciences	Education	Engineering	Home Economics	Physical Education	Military	Summer School Specials	Extension		Total Less Duplications
									Edu.	Engr.	
Professors	18	20	5	3	3	1	1		1		51
Lecturers	5	3		3							11
Associate Professors	10	10	1	1	1						23
Assistant Professors	4	10		5	1	1	3				24
Instructors	3	20	9	1	1	3		36	18	1	90
Assistants	6	20		1		1					28
Graduate Assistants	6	8									14
Fellows	4	9	1		1						15
Miscellaneous	2				1						3
Student Assistants				4		1		1			6
Critic Teachers			47						4		51
Total	58	100	63	18	8	7	4	37	23	1	316

1937-38

Professors	21	22	4	4	3	1	1		1		56
Lecturers	6	2		3		1					12
Associate Professors	9	9	1	2							21
Assistant Professors	9	19		5	3	2	4				42
Instructors	7	37	8	3	3	3		37	19	2	118
Assistants	2	2		1	2						7
Graduate Assistants	10	9									19
Fellows	2	14		1	1						18
Critic Teachers			58								58
Total	66	114	68	19	12	7	5	37	20	2	348

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

BALTIMORE

	1936–37	1937-38
Arts and Sciences	16	12
Dentistry	58	53
Law	22	22
Medicine	263	258
Nursing	32	34
Pharmacy	30	29
Total Less Duplications	403	384

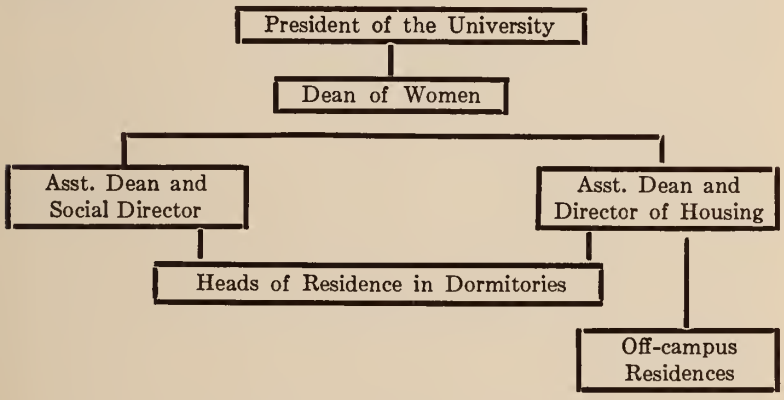
Office of the Dean of Women

ADELE STAMP Dean

THE women students at the University of Maryland have chosen this institution believing that it is the best university for them, that it will be able to give them every day as the day comes, the best of academic and social life. Whether or not this belief has been a conscious one in the minds of all women students consistently, it has served as a challenge to those whose concern is primarily their best welfare. Those in the Office of the Dean of Women have tried to engender a way of life that will look to the day that is being lived and to living each day in a way which will help develop the ability to adjust and contribute to the home and community after college.

In the fall of 1937, the personnel of the Office of the Dean of Women was enlarged by two members. This increase in staff had been a most urgent need and the accession has proved advantageous. This Office has had the good-will and active cooperation of students, faculty, and administrative staff throughout the University in the working out of the new status on the campus—this is the premise to good work. Thus with an increase in personnel there has been much greater opportunity for observing, integrating, and guiding of women students. Too, the Dean has been able to organize her activities with greater concern for the opportunities for women and the part they take in a democratic society.

Graphically the organization of the Office of the Dean of Women may be presented thus:



The two new staff members assume equal responsibilities for counseling and guidance with all its implications; but to one has been assigned the supervision of the social life and organization on the campus, while the other supervises general living conditions both on and off the campus.

The Dean assumes responsibility for requesting, organizing, and collating the program for the plans for individual staff organization; for physical facilities and equipment, for the budget. The Dean serves in the capacity of coordinator—heading the personnel and guidance efforts. She interprets to the staff the particular characteristics and needs of the institution—the environment—the constituency. She plans with the staff the larger objectives for women's particular needs—she makes good-will for the persuading and inducing of acceptance of these objectives both by the University and by the State. She initiates a program which gives understanding of the trends of women's participation in public affairs.

Some of the special opportunities offered to the students on the campus in the light of this program have been such as compose a well-rounded picture: A well-known woman judge and lawyer spoke on citizenship and the place of women in the community; an eminent woman news commentator presented a series of lectures on current events and travel; the President of the General Federation of Women's Clubs gave a program of Indian history, legends, and rhythms; a dramatic artist and director presented a most entertaining lecture recital; a Chinese woman leader spoke on the Sino-Japanese situation; and Mrs. Franklin Delano Roosevelt, spoke to the student body, faculty, and friends of the University.

In recognition of a vital need, the faculty women's-faculty wives social group was organized whose regular meetings promote congenial relationships between the administration, faculty, and staff.

The Dean has great concern for alumnae of the University both as they take their places in the communities throughout the State or at greater distances and as they return to the campus on special occasions. The development of these women has been sponsored by the staff of the Dean of Women over a period of years and it is desired that this relationship be kept alive.

The Dean gives sufficient time and thought and active participation in not only her own professional organizations but also in groups which are making a definite contribution to the education of women, with the Office of the Dean of Women as a cooperating link.

In the sphere of national women student and women in education organizations, which are so significant in the academic world, participation included a membership at large on the Council of Alpha Lambda Delta, freshman women's honorary scholastic society, and selection as the national treasurer; activity in Mortar Board, senior women's honorary society, as sectional representative in the national executive council; formation and organization in March, 1937, of the Maryland State Chapter of Delta Kappa Gamma Society, the purpose of which is to honor women who are recognized as leaders in the profession of teaching and who have rendered notable service to women and education.

Environment naturally bears a great influence on a student's life. Women students at the University of Maryland are housed in one of three ways: dormitories, sorority houses, or off-campus houses.

The best in living conditions which the University itself offers is in the dormitories. The women's residences are well managed and form a splendid setting for satisfactory college life. Maryland girls have been given first consideration in dormitory placements.

With the guidance of capable hostesses, who cooperate with the Office of the Dean of Women, the sororities have made gracious living possible for about one hundred and fifty upperclass women.

A steadily increasing overflow of Maryland and out-of-state women students who cannot be accommodated in the dormitories, have been placed in private homes in College Park and the vicinity. These residences are generally referred to as "off-campus houses." The development of a more regular and of a closer cooperation between these students, their householders, and the Office of the Dean of Women has furthered both a more normal University experience for the students and has provided standards of living approaching those maintained in the dormitories.

Inasmuch as it was necessary that the Office of the Dean of Women make a thorough survey of off-campus accommodations it has been possible for this Office to offer assistance to men and women graduate students, and faculty and staff members regarding living quarters.

Students who need supplementary part-time employment, particularly those working for room and board in private homes, have been placed and helped subsequently with their problems to the end that their college experience may be as happy and productive as possible.

Student organizations, clubs, activities, evolve because of need but coincident with these moving forces must come consideration, evaluation, guidance. The aims in the planning for and the unifying of the social program at the University both in the regular and summer sessions are that it shall be so varied that it shall meet the needs of all interests; shall include not only those students who can do, but also provide for full participation in meaningful experiences; shall be a real contributing factor in the better adjustment of the student to the social group; shall give understanding and increased mastery of the techniques of self-discovery and self-direction.

Those in the Office of the Dean of Women have tried to serve as a cohesive force in the pattern of the social program in the University. They have acted as adviser to student-leader groups in the organization of service programs to the end that their activity shall promote the highest standards of personal conduct and achievement. They have been as aware as possible of student needs and have tried to attend all types of campus events that they may know of current accomplishment, participation, adjustment.

The guidance program of this Department falls into two parts: that initiated by students and that initiated by the personnel workers. The aim is that counseling advisement shall be voluntary for the student, but for those in their first year in the University, conferences are definitely scheduled. The increased staff has made possible greater consideration for all problems of counseling and guidance. These include concern for the stu-

dent from the period preceding entrance to the University through the freshman week and on as a continuous process of orientation until the student leaves the institution, with consideration of home-background problems, scholarship, budgeting of time and money, social adjustment, religion, extra-curricular activities, and vocational guidance.

Continuity to the guidance of women students is given by the cumulative record kept in the Office of the Dean of Women which supplies a history of the development and growth intellectually, physically, socially, and emotionally. It is a personality pattern which is most useful to members of the staff in giving to parents an understanding of their children's problems, in interpreting data for vocational experts and for psychiatrists in dealing with special problems. Great mutual benefit has been derived from the cooperation with the Admissions Office, with house mothers, the health department, the newly established testing and measurement program of the Psychology Department, and with University committees, especially the Committee on Admissions, Guidance, and Adjustment. In connection with the latter, information and recommendations have been given. Students concerned have been assisted in their adjustment subsequent to the decision of the Committee.

Besides working with individuals in the counseling program the staff of the Office of the Dean of Women works with various campus student organizations ranging from the purely social to the scholastically centered groups.

The need for a new dormitory for undergraduate women students is acute. Many Maryland girls do not come to their own State University simply because they cannot be accommodated in the dormitories, yet there are enough Maryland women students living in off-campus houses at the present time, to fill another dormitory. At best, conditions as desirable as those in a university operated residence cannot exist in a group of miscellaneous private homes. Whereas many private householders in the neighborhood wish to rent rooms, the great majority are unwilling to accommodate undergraduate women. This means that the latter have to accept quarters which are most inconvenient because of their distance and location. Walking to and from classes along the main boulevard between Washington and Baltimore where there is no sidewalk is not only unpleasant but over-tiring and dangerous. Although the off-campus students may make arrangements to take their meals in the University operated dining hall they find that getting to meals there is extremely awkward and impractical; going out to three meals a day at drug stores and the like leads only to irregular and other unwholesome eating habits.

Department of Physical Education For Women

GWENDOLYN DREW, M. A., Professor

ADMINISTRATION

THE Department of Physical Education for Women first was organized under the supervision of the Dean of Women. However, September 1, 1938 the Department was made a separate division of the University with a Head with the rank of Professor. The department, of course, still maintains close contacts with the Dean of Women's Office as that office is responsible for the general welfare of all Women Students. The Department includes major courses in Physical Education and Recreation, a Health division, the University requirement for freshmen and sophomores and a division of non-required social, recreational and athletic activities.

ORGANIZATION

The major department set up in 1933-34 continues to grow and at the close of the biennium registered thirty-three students. The curriculum is so arranged that the student completing it is eligible for certification by the State of Maryland.

The Department of Recreation organized in 1938 provides for the needs in this new field.

The required Physical Education course is planned to meet the practical needs of the prospective teacher registered in the Educational department and yet provide recreational activities for the students in other colleges.

A complete physical examination is given each girl each year by the woman physician. In the event of remedial defects the student reports to the physician for check-ups and further advice. The physician has been on the campus four hours each week for consultation.

Three semesters of Hygiene are required of all freshmen and sophomore students and a First Aid course is part of the curriculum for Juniors in the major division.

The social and recreational phases of this program which is carried out on a voluntary basis has just begun its development. The athletic phase included intramural and intercollegiate activities.

The Women's Athletic Association has carried on a program of intramural sports including hockey, tennis, basketball, volleyball, and archery. It has sponsored several Sports Days on our campus and its members have been guests on other campuses.

Intercollegiate Athletics as such are not stressed in the Department but girls have the opportunity of meeting students of other colleges through Sports Days and rifle shooting competition.

FACILITIES AND EQUIPMENT

The indoor and outdoor facilities remain the same as of the last biennial report. The locker facilities are very inadequate and recommendation is being made in their regard.

Equipment for all activities has been provided by the University, also towels are furnished and laundered. The girls, however, purchase their own personal equipment as shoes, and gymnasium and dance suits.

ENROLLMENT

As of September 30, 1938

Majors In Physical Education	
Freshmen	12
Sophomores	11
Juniors	6
Seniors	4
Required Physical Education	
Freshmen	262
Sophomores	209
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Department of Physical Education For Men

C. L. MACKERT, Professor

THE Department of Physical Education for Men, as now organized at the University of Maryland, embraces three types of service. In cooperation with the College of Education it prepares teachers for the secondary schools of the State. Another of its contributions is instruction in classes of remedial activity for those students who have been disqualified for military training. Further services are the administration and supervision of sports programs: namely, intramural and extramural athletics and occasional recreation.

In the area of teacher training, the Department of Physical Education for Men is adequately meeting the demand for teachers of physical education in the county schools of the State. This Department also has recently inaugurated a course of study which prepares individuals to direct programs of recreation in the various communities of the State.

These primary functions of the Department of Physical Education for Men have included instruction both in content of subject matter and methods of instruction. With the recent addition of one full-time and one part-time staff member, the department is now training teachers for every type position is physical education and recreation available in the State of Maryland.

The contributions of the Department of Physical Education for Men in the field of health conservation for handicapped students has produced many gratifying cases of individual improvement, as well as many accomplishments of a general nature. One young student, who entered the University with a heart condition that disqualified him for military service, was found upon re-examination, subsequent to his period of training in physical education classes, to be free from the previous functional defect of his heart.

In recognition of the general effectiveness of this program of human conservation, the Inner Eye Society, an international organization for the promotion and recognition of aid to handicapped individuals, elected the Director of the Department of Physical Education to its membership.

Practices that provide for and definitely favor education of the emotions, re-direction of native urges, and re-affirming and re-establishing moral and social values of leadership and fellowship have been inculcated in the program of sports education directed by the Department of Physical Education for general participation. Student progress in this type of activities is difficult of measurement, but evidences itself definitely in the way students act in a variety of social situations sponsored at the University, and in the behavior of students generally. It is significant to recognize that rowdyism, hazing and mob violence in all their degrading forms have been eliminated from life at this University. Problems of control, discipline and adjustments have been at a minimum in the past two years. These are outstanding moral and social achievements, which seem to be fulfilling one of the chief aims of the educational program of the State.

The Department of Physical Education for Men is pardonably proud of its contributions to better citizenship and more effective living among students at the University, and its training of teachers capable of carrying on and of teaching these valued individual traits and social traditions in the many public schools of the State of Maryland.

Student Life

GEARY EPPLEY, Dean of Men

THE problems of the student college community are about the same as in our civic communities. Health, social recreation, physical recreation, religion, food, and shelter must be provided so that the student may carry on his academic work most efficiently. A government must be maintained which, besides its normal functions, will create a proper spirit and give students training in self government.

The development the college student receives in extra curricular activities has become nearly as important in American college life as the academic work. Employers, when selecting college graduates, consider the campus activities as well as the academic accomplishments of the student, for they realize the way a student meets the problems of campus life is a good criterion of the way a person will react in the world of affairs.

The University of Maryland has endeavored to develop activities for students, not laying any undue stress upon any phase, but formulating a well rounded program.

The Student Government Association, with its Women's League and Men's League, has performed about as efficiently as could be expected of continually changing inexperienced officers, but the students have received definite benefits in administrative training. There are departmental clubs which afford opportunities for student expression in literature, dramatics, and music, and discussion in political science, economics, and the various technical and scientific fields. Religious guidance is given by student pastors from the various denominations working through the student sectarian clubs.

The general health conditions are very good and it is fortunate that there has never been a serious epidemic of any kind. Facilities are rather limited, but an appropriation is available for the construction of a new Infirmary.

The fraternities, sororities, and commercial eating establishments are offered the services of the University and the State Department of Health to examine all employees for communicable diseases and advise concerning general sanitary conditions. All have accepted this service.

Rooms in off campus houses must be inspected and approved by the University before being recommended to students.

There are two part-time doctors and two full time graduate nurses to care for the health of the students, and an addition to this staff is necessary.

The Men's and Women's Departments of Physical Education conduct an extensive intramural program in order to furnish opportunity for physical activities for all students. A full intercollegiate athletic program is maintained which, in addition to the physical training given to the students, brings about friendly rivalry with other universities, affords an opportunity for keen competition that brings out the best in men, and serves as a rallying point for students and develops a sense of loyalty to the institution.

News, information, and reviews are furnished by the students for the students through four publications. The "M" Book is the reference for pertinent campus facts. The Diamondback furnishes the current weekly news. The Old Line, a monthly humorous and literary magazine, suffers because of lack of talent and needs considerable revamping. The Terrapin, the review of the year's activity, is the cherished souvenir of college life and a policy has been adopted to cover more of the minor activities.

A student activity fee finances the student publications, the four class organizations, dramatics, and music. This fee has proved very satisfactory and has enabled each group to operate on a sound financial basis and to enlarge its sphere of work. The funds are allotted by the Student Government Association and each organization operates under a strict budget and order system. Even though these are not State funds the accounts are handled with the same accuracy and are audited each year by the State Auditors. Our system is greatly appreciated by the business concerns and is reflected in the prices at which the student organizations can buy.

The completion of the new dormitory for women has relieved somewhat the unsatisfactory housing for women and has provided some much needed recreational space. The pressing need at present is for additional men's dormitories to care for the increased enrollment and to relieve a somewhat overcrowded condition. Except for the shortage of rooms the general conditions are healthful and pleasant, and the dormitory management, with the General Service Department, adds improvements each year. A recreation room where students might gather before and after meals and for games in the evening is a much needed asset.

It is the policy of the University to assist in every way possible worthwhile students who need aid to pursue a college education. Under the provisions of the National Youth Administration, 230 students have been given part-time work. A greater number than this have been employed by the University on campus jobs and many students obtain off campus jobs through the Student Employment Service.

The tuition scholarships, made available by the Board of Regents, have been the means of a number of students securing an education, but they do not take care of the great many demands for such aid.

The increasing number of day students presents a very definite problem. A large automobile parking area must be maintained and with the large amount of traffic it cannot be kept in satisfactory condition unless it has a hard surface.

Rest rooms, study rooms, and a place in which to eat lunch are badly needed for these students.

A well rounded social life for students is provided by dances held by the four classes, Rossbourg Club, fraternities, and various departments; the University receptions; teas and parties held by the various clubs and fraternities; and student banquets. The major University dances, both formal and informal, are of the highest order. As a general thing, student life on the campus is very satisfactory. Problems arise, but they are to be expected. In comparison to many other institutions the University of Maryland is fortunate.

Buildings and Grounds

H. L. CRISP, Superintendent

THE Department of Buildings and Grounds functions mainly as one of Maintenance and Operation.

In the last year, a number of old buildings have been razed, paving the way for contemplated new construction. Among these were, farm houses, machinery sheds, horse barns, seed barns, foundry, and old boiler house.

The old Rossburg Inn, with the help of the U. S. Government Works Progress Administration, is being restored as nearly as possible to its original type. The building is of historical interest and will be much appreciated by students and friends of the institution as well as those interested in the older landmarks of the country.

Ground was cleared and new Dairy barns were erected under W. P. A.

Morrill Hall, one of the oldest of the campus buildings, was reinforced by steel beams; laboratory facilities were inproved in some of its class rooms. The building is in need of new floors.

A new heating unit was added to the heating equipment. It is of the pulverized fuel type, giving for use and student observation both the stoker and pulverizer type boilers. With the boiler installation, were supplied water softeners, and oil burners.

With the help of the W. P. A. 3000 ft. of 8 in. water main has been added to our water system, same supplying the new dairy barns, the poultry plant, and green houses to be erected. The line provides fire plugs which this section of the campus much needed. 4500 lin. ft. of curbing was laid as a protection to the campus.

Various improvements and changes have been made, such as the radio room provided in Arts and Sciences, laboratory for "sand and gravel" research, new drawing tables in engineering class rooms, rifle racks for the use of the Military department, etc.

The usual general repairs have been made and besides, the Gymnasium floor leveled, sanded, and refinished; Practice House floors sanded and refinished; exteriors of A. & S., Coliseum sash and steel stands, Girls' Field House, Dining Hall, Practice House and Gerneaux Hall painted; reading room of new Library painted and new drapes for the windows purchased; laundry roof recovered. Grading and sodding to a limited extent has been done, along with planting of white pines, and replanting of shrubbery from new building sites.

The plant, as a whole and the campus are in reasonably good condition.

Princess Anne College

R. A. GRIGSBY, Acting Dean of Administration

THE Princess Anne College is the part of the University of Maryland devoted to the Education of negroes. The most outstanding developments at the College for the last two years may be summarized as follows:

Administration: Three additions have been made to the administrative staff; one junior clerk, one stenographer and one school nurse.

More than twenty-five thousand dollars worth of improvement has been carried our in refurnishing the dormitories, cottages, and offices.

Teaching Staff and Instruction: Fourteen additional teachers, holding a master's degree, have been added to the staff during the last two years.

Division of Agriculture and Agricultural Education: This division, like the other two divisions of the four-year curriculum, offers courses leading to a bachelor of science degree. The beginning of a teacher-training program

to supply vocational teachers for the secondary schools of the State offers opportunities to Maryland youth for an increasing progressive program of vocational training throughout the State.

Arts and Sciences Division: From the two-year curriculum of the Arts and Science Division at Princess Anne College, students have passed with but little difficulty to the junior year of Howard University, Morgan College, and Claflin University.

Home Economics Division: One of the most outstanding developments of this division was the organization of a practice house for the class in Home Management, where senior girls learn practical housekeeping.

One teacher with a master's degree has been added to this Division.

Mechanic Arts Division: The following developments may be classed as the most outstanding in the Mechanic Arts Division in the last two years:

The establishment of a curriculum in Mechanic Arts and Mechanic Arts Education of four years, leading to the Degree of Bachelor of Science (1936-1937).

The purchase of several pieces of power machinery, and the improvement in quality and amount of work done in the department (1937-1938).

The employment of the three additional full time teachers of Me--chanic Arts and Mechanic Arts Education.

The first class, to receive the bachelor of science degree from Princess Anne College, was graduated last June, 1938.

The development which, in the last two years, towers above all the rest, is the completion of plans for a $200,000 building program for Princess Anne College, comprising a trade building, a combination administration and home economics building, and a gymnasium.

REPORT OF THE COMPTROLLER

The receipts for the two years ended September 30, 1938 for the several divisions of the Boa of Regents and the State Board of Agriculture were as follows:

1936–37

	State of Maryland	U. S. Government	Student Receipts	Sales and Miscellaneous	Total
Instruction, Baltimore	$67,353.67		$361,355.27	$65,294.05	$494,002.
Instruction and Allied Activities, College Park	229,423.08	78,185.76	616,875.12	247,857.85	1,172,341.
University Hospital	105,000.00			446,728.89	551,728.
Agricultural Exper. Sta.	53,874.00	106,059.65		30,901.35	190,835.
Extension Service	123,213.00	195,277.66		45,068.08	363,558.
Live Stock Sanitary Serv.	97,873.00			158.55	98,031.
State Dept. of Forestry	47,260.25	14,010.18		58,269.67	119,540.
Md. Geological Survey	11,228.70			988.32	12,217.
Md. State Weather Serv.	1,861.63				1,861.
Princess Anne College	16,143.67	14,161.27	3,331.28	8,309.42	41,945.
Athletics and Other Student Activities			76,184.71		76,184.
Total	$753,231.00	$407,694.52	$1,057,746.38	$903,576.18	$3,122,248.
Percentage of total income	24.12	13.06	33.88	28.94	100.00

1937-38

Instruction, Baltimore	$71,846.91		$359,286.94	$78,366.56	$509,500
Instruction and Allied Activities College Park	304,645.63	87,514.10	439,530.11	170,677.94	1,002,367
University Hospital			2,400.00	447,754.41	450,154
Agricultural Exper. Sta.	88,710.62	112,305.06		57,058.68	258,074
Extension Service	196,547.00	195,296.01		50,023.38	441,866
Live Stock Sanitary Serv.	197,258.26			6,512.03	203,770
State. Dept. of Forestry	72,330.00	12,421.33		47,078.44	131,829
Md. Geological Survey	18,035.64			1,389.64	19,425
Md. State Weather Serv.	2,192.65				2,192
Business Management	337,667.77		208,199.91	112,408.52	658,276
Princess Anne College	25,983.00	15,652.68	7,455.34	9,409.70	58,500
Athletics and Other Student Activities			85,836.41	102.80	85,939
Total	$1,315,217.48	$423,189.18	$1,102,708.71	$980,782.10	$3,821,897
Percentage of total income	34.42	11.07	28.85	25.66	100.0

UNIVERSITY OF MARYLAND

OFFICIAL PUBLICATION

VOL. 34 OCTOBER, 1940 No. 4

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UNIVERSITY OF MARYLAND
and
STATE BOARD OF AGRICULTURE

Including a summary of the work of the University of Maryland, the Agricultural Experiment Station, the Extension Service, the State Board of Agriculture, and other branches of work under the jurisdiction of the University and State Board of Agriculture.

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BOARD OF REGENTS

and State Board of Agriculture
October, 1940

	Term Expires
W. W. Skinner	1945
Kensington, Montgomery County	
Mrs. John L. Whitehurst	1947
4101 Greenway, Baltimore, Md.	
J. Milton Patterson	1944
120 W. Redwood St., Baltimore, Md.	
Rowland K. Adams	1948
1808 Fairbank Road, Baltimore, Md.	
W. Calvin Chesnut	1951
Roland Park, Baltimore, Md.	
Wm. P. Cole, Jr.	1949
100 W. University Parkway, Baltimore	
Henry Holzapfel, Jr.	1943
1017 Oakhill Avenue, Hagerstown	
Harry H. Nuttle	1948
Denton, Maryland	
John E. Semmes	1951
100 W. University Parkway, Baltimore	

LETTERS OF TRANSMITTAL

His Excellency Governor Herbert R. O'Conor,
and the General Assembly of Maryland,
Annapolis, Maryland

SIR AND GENTLEMEN:

The Board of Regents of the University of Maryland and the Maryland State Board of Agriculture herewith render a report of the work of the several departments under their jurisdiction for the past two years.

Very truly yours,

W. W. SKINNER, *Chairman.*

Chairman, Board of Regents of the University of Maryland and of the Maryland State Board of Agriculture.

SIR:

Herewith is a brief report of the University of Maryland and Maryland State Board of Agriculture for the last two years. This report includes all branches of work under each board and includes the period covered in the State's fiscal biennium from October 1, 1938 to September 30, 1940.

Very truly yours,

H. C. BYRD,

President and Executive Officer.

President's Statement

THE work of the University of Maryland and the Maryland State Board of Agriculture is so closely interwoven that it is virtually one and the same. In the organization of the University and the State Board of Agriculture, this achievement evidently was intended, and it now seems finally to have been brought into actual effect, so that the farm and agricultural interests of the State are at last receiving the benefits originally designed for them. This coordination has been fully effected during the past two years.

Because the work of these two agencies is so closely integrated, the statement of what has been accomplished by them will be given as one statement, and no attempt will be made to differentiate between the legal technicalities which divide their work.

The growth of the physical plant of the University in the last two years has been very noteworthy. During this period, new classrooms, new laboratories, new office space have been provided for virtually all departments, and in every particular the University has the facilities for giving better service to the people of the State and for providing higher quality of teaching.

In the last two years the total additions to old buildings, and new buildings constructed, number seventeen. Three of these new buildings have been constructed at Princess Anne for the special benefit of Negro education in Mechanic Arts, Home Economics and Agriculture.

In Baltimore, new floors have been added to the University Hospital, a new building for medical research has been constructed, and additions to the Nurses Home and Dental Building have been completed.

At College Park, an addition to the old Engineering Building has been constructed and this building now is being used as an Arts and Science Building, Engineering having been transferred to the old Arts and Science Building.

An Administration Building, an addition to the Dining Hall, an addition to the Infirmary, new Men's Dormitories, remodelling of the Dairy Building, a new Home Economics Building, a new Poultry Building and Poultry Plant, and a new building to house the Plant Maintenance departments have been erected.

Specially noteworthy from an agricultural point of view has been the completion of one of the most modern livestock plants in the country at College Park, and it is further noteworthy to agriculture that there is now being erected a series of new barns on the field crops and horticultural farm.

Broad changes are now nearing completion in the general plan of the campus. The Governor authorized the acceptance of considerable Federal

grants for these purposes. The old University Lane, a State road which ran through the middle of the campus, creating a very real hazard, has been shifted to the north of the campus. The Governor has been in constant touch with the President of the University in preparation of plans and determination of means for making these improvements.

Another distinct contribution to the State's conservation interests has been initiated and is now nearing completion in the erection by the United States Bureau of Fisheries of a $100,000 laboratory building on the campus at College Park, under an arrangement which provides for close cooperation between the Federal Government and the State's and University's work in study and development of the State's water resources and in the study of methods of preservation of seafoods. The future value of this study and development of the State's water resources is impossible even to conjecture at this time.

Another noteworthy contribution at College Park, of great historical interest, in the past two years, has been the restoration of the old Rossborough Inn. Because the old inn has been since Revolutionary times one of the State's old landmarks, the Governor's interest in preserving this historic structure for future generations has been great.

The educational advancement of the University has kept pace with the advancement in physical facilities. Evidence of this is contained in the fact that the University courses in Engineering have been accredited by the national Engineering organization for such accrediting, and also the College of Commerce has been accredited as a member of the American Association of Collegiate Schools of Business, and has also become a member of the American Conference of State University Schools of Business. The University of Maryland College of Commerce is now the only institution of this kind now accredited in this region.

Constant improvement has been effected in other educational problems, notably in fundamental educational subjects, such as Psychology, English, Sociology, History and the Sciences germane to all other curriculums, and in Home Economics. Adequately equipped in both laboratory and classroom facilities for the first time, the College of Home Economics now is able to give to the girls of the State excellent training in that field.

Of particular note, also, has been the further coordination and development of library facilities of the University, which have, and always will be, the backbone of any educational organization.

The Governor has recognized the broad implications of the University's close relationship, as a Land Grant College, with the Federal Government, and has helped in every way possible in the development of this relationship.

The Governor's interest in having the University cooperate with the industries to carry on research for their benefit is evidenced by the increasing

number of grants from industries to the University which he has approved for this purpose. This research in the last two years has ranged from tests on explosives for the Federal Government to research in the production of castor oil; from attempts to find methods to control diseases of animals to the discovery of a new type of anesthesia. In this respect the University is rapidly becoming the State agency for the improvement and development of industrial resources through research.

In the broad field of agriculture, in which the Governor's interest has been exceptionally keen, distinct progress has been made in many lines of work.

In Soils conservation there now is being actively directed a joint soil and water conservation program involving 1,700,000 acres of land which lie within the five organized conservation districts of the State, which is more than one-fifth of all the farm land in the State. Although four of these five districts did not begin operations until last spring, 298 conservation plans, involving 55,273 acres, have been prepared. These plans include a soil survey of each farm, showing the extent of erosion, types of soil, slope of the land, crops grown, with recommendations for the best method of working each farm.

Additional appropriations were made to help in the control of Bang's Disease and other diseases of animals. As far as bovine tuberculosis is concerned, the State is now regarded as an accredited area. For Bang's Disease, 42 per cent of the cattle in the State are under test. This represents 180,000 head of cattle in 25,000 herds. Certificates have been issued as accredited Bang's Disease free herds to 3,050 herds containing 70,000 head of cattle.

Poultry diseases have been given increased attention. Pullorum disease constituted the bulk of this work. Approximately 460,000 Pullorum tests have been made.

Regulations against the importation of diseased livestock have been enforced with increased vigor.

Apparently it is extremely difficult to control the Japanese Beetle, but appropriations have been made to retard it as much as possible, and, through research, it is hoped to discover means of eventual control. Considerable progress has been made.

Control of other insect pests and control of plant diseases have also occupied the attention of the State Administration, and it should be mentioned that a special effort is being made, through a special appropriation, to promote work on the eradication of diseases of bees. Seven hundred and forty apiaries, numbering 5,183 colonies have been inspected by reason of this new appropriation.

Considerable progress has been made also in the enforcement of the Fresh Egg Law and the Poultry Sale and Transportation Law, and in

research in the marketing of cantaloupes and other agricultural products In Baltimore and vicinity, for instance, there have been inspected and certified so far this year 890,183 dozens of eggs.

The Governor, through the University organization, has been very much interested in and has aided in various ways, the handling of surplus commodities through the Federal Surplus Marketing Administration.

The drainage of lands, the study of water resources, the improvement of forests, and the further development of all those things that are a part of building up of the State's agricultural resources have been further implemented and developed.

In Forestry, the State-owned lands have been increased from 55,000 acres to 110,000 acres through cooperation with the Federal Government, and without cost to the State.

Work in agricultural research has progressed and one of the best men in the country in the coordination and integration of agricultural activities, Dr. Roger B. Corbett, has been brought to Maryland to head the Agricultural Experiment Station.

There seems to be no doubt that the work in agriculture in Maryland in teaching, research, extension and control of insect pests and animal diseases is better coordinated than in any other state in the country.

The Governor has been zealous in his efforts to see that the highest type of service possible has been rendered to the farm people of the State.

College of Agriculture

H. F. COTTERMAN, *Assistant Dean*

DURING the biennium just closed the enrollment in the College of Agriculture reached 420, an increase of forty percent over that for the previous two-year period. This is the largest enrollment in Agriculture in the history of the University.

The College continues to provide trained personnel for agriculture and its allied industries. Placement has been heavy. Ninety-five percent of the June graduates of each year were in satisfactory positions by the succeeding November.

Education in fundamentals receives special attention. The professional and scientific curricula correlate technical, basic sciences, and cultural subjects in careful balance.

A five-year curriculum in Agricultural Chemistry was established during the biennium through the cooperation of the College of Arts and Sciences,

and a five-year program of study in Agriculture and Engineering was inaugurated during the biennium in cooperation with the College of Engineering. These courses are designed for students who wish to specialize in the application of engineering principles to the physical and biological problems of agriculture. Combinations with agriculture are made possible in the four fields of Civil, Electrical, Mechanical and Chemical Engineering.

The establishment of these five-year curricula puts the University of Maryland in the forefront of institutions offering training in the above-mentioned fields.

As stated in the last report, the strength of the College of Agriculture of the University of Maryland lies in the close coordination and integration of the instructional, research, extension, and regulatory functions assigned to it. This coordination is bearing the fruit expected of it.

The demands for both equipment and space which result from the larger enrollment in both the undergraduate and graduate work in the departments of the College of Agriculture have been met in part. However, the very rapid developments in the mechanization of agriculture, as well as the changes due to scientific advancement, make the demand for new and improved equipment constant and ever-recurring. The demands on an agricultural college from this standpoint are more pronounced today than ever before.

In the basic science departments, Bacteriology, Botany, Entomology, and Soil Technology, the demands are for added laboratories and laboratory facilities, including special reference materials. In the departments dealing more specifically with production such as Animal and Dairy Husbandry, Crop Technology, Horticulture, Poultry, Farm Engineering, and Farm Management, the demands are more in the direction of increased cropping facilities, herds and flocks, to provide controlled demonstrations. This type of teaching calls for large amounts of semi-skilled institutional labor at wages above the average. As rapidly as facilities will permit the farm acreage which is available for instructional and investigational purposes is being adapted to the needs of the several departments witihn the College. The Dairy and Animal Husbandry Departments are in urgent need of facilities for clearing the land assigned to them in order that they may develop productive pastures.

In May, 1940, Dr. W. B. Kemp was made head of the Department of Agronomy. He succeeded Professor J. E. Metzger who passed away on Christmas day, 1939. Professor Metzger had been continuously in charge of this department for more than twenty-two years. His untimely death was a great loss to all those associated with him.

The work in Animal Husbandry was materially strengthened. Courses in Light Horse Production and the Marketing of Farm Animals were added. More practical work was introduced into laboratory instruction. The graduate program was revised in terms of recent findings and development in the field.

The Department of Animal and Dairy Husbandry was divided into the two distinct departments of Animal Husbandry. Dr. Fred H. Leinbach was made head of the former and Dr. Kenneth L. Turk of the latter. Professor Kenneth Ikeler, who had served as head of the combined departments for several years, resigned from the University.

During the biennium the curriculum in the Dairy Husbandry Department was revised. More fundamental courses were introduced in the lower years and the program of instruction was arranged to meet the needs of both those desiring to specialize and those desiring a more general training in the field.

The Department of Bacteriology, added a new curriculum in the technology of food preservation and manufacture during the biennual. It was introduced in the interest of the canning, freezing, and other food industries of the State. An advisory council of men from the several industries was organized and functioned in providing advisement on the developments in this field.

Enrollment in the courses in Farm Management and Agricultural Economics increased twenty-five percent during this period and the undergraduate curriculum received some revision in that courses more basic in character were introduced into the sophomore year. In this curriculum the student now pursues sufficient courses in the production sciences, general economics, agricultural economics, marketing, finance and land economics to provide the foundation needed to meet the production and distribution problems facing the individual farmer.

During the biennium more basic instruction was introduced into the Horticultural curricula and several of the curricula for undergraduates were consolidated.

Registration for graduate instruction is increasing. Dr. A. Lee Schrader, who had been head of this department for the past five years retired as head of the department to devote a major part of his time to research in the Experiment Station and was succeeded by Dr. C. H. Mahoney.

In the fall of 1939 the Poultry Department moved into the new building provided for it and developed along the plans projected for it during the previous two-year period. This department is now modern in every respect and has a plant comprising thirty-four acres with adequate flocks and laboratories for instruction and demonstration. Two new courses were offered by this department during the period covered by this report—one, Commercial Poultry Management, the other, Anatomy of the Domestic Fowl.

There has been no change in general curriculum policy in the College of Agriculture since the last report. The three classes of curricula, Technical, Scientific, and Special are clearly differentiated and are proving their worth in meeting the varied needs of the students who enter this College.

Maryland Agriculture Experiment Station

R. B. CORBETT, *Director*

THE biennium ending September 30, 1940, was one of the most important in the history of the Maryland Agricultural Experiment Station. There were many changes in personnel, buildings, land and equipment.

The most important personnel change was caused by the sudden and tragic death of the Director of the Station, Professor J. E. Metzger. Since the retirement of Dr. Patterson, Professor Metzger had worked in the capacity of Acting Director for two years, and had been made Director only a few months prior to his death. From December until September 1940, Dr. T. B. Symons, Dean of the College of Agriculture, acted as Director of the Experiment Station. In September, 1940, Dr. R. B. Corbett, who had been Dean of the College of Agriculture of the University of Connecticut, became Director of the Agricultural Experiment Station.

There were also several changes in Department Heads. Professor Metzger had combined the duties of Director of the Experiment Station with those of Head of the Department of Agronomy. Soon after Director Metzger's death Dr. W. B. Kemp was made Head of the Department of Agronomy. Dr. A. Lee Schrader, Head of the Department of Horticulture, wished to return to research and teaching and was relieved of the administrative duties of Head of Department. Dr. C. H. Mahoney who had been a member of the Horticultural staff for a number of years, was made Acting Head of the Department. The Animal Husbandry Department was divided into the Departments of Dairy Husbandry and Animal Husbandry upon the resignation of Professor K. C. Ikeler. Dr. K. L. Turk who had been with the Department about three years was made Head of the Dairy Husbandry Department, and Dr. F. H. Leinbach, who had been with the Department approximately three years was made Head of the Animal Husbandry work.

In addition to the changes in the Heads of Departments, there were two other important changes in personnel. Mr. Thomas H. White, for forty years an outstanding figure in the Experiment Station, retired from active duty in the Horticultural Department. Mr. White made many fine contributions to the Agriculture of Maryland during his forty years of service. One of these was the development of the Maryland Golden sweet potato which has meant much to the income of sweet potato growers of the State. Also, Professor C. E. Temple, Head of the Plant Pathology Division of the Department of Botany, closed his long period of service with the University on the last day of this biennium. Dr. R. A. Jehle was appointed to take over the work when Professor Temple retired.

Outstanding among the changes in buildings, land and equipment, has been the development of the research farms. The land was purchased as a

result of the sale to the Federal Government of the previously owned farms. The research work of the Agronomy and Horticulture Departments is well under way on this new land, and experimental plots now cover much of the 508 acres. On a considerable percentage of the land a cooperative project with the Soil Conservation Service is in progress. An Agronomy Building for the handling and storage of seed, etc., a Horticulture Building for work in propagation, refrigeration, and storage; two sheds for the housing of equipment and tools, and a small cottage, have been built. This new land and these new buildings give a much better opportunity to the Experiment Station to conduct the research that is requested by Maryland farmers. The new Dairy and Livestock barns have been completed and put into use. Probably no two years in the Station's history has seen such marked improvement in the livestock owned by the University. The Dairy herd particularly has been improved, and is now a credit to the State. It forms a much better basis for conducting research work than any which had previously been available. The poultry flocks and the equipment of the Poultry Department have been greatly improved.

The varied agriculture in Maryland, which, incidentally, is probably as varied as that in any state in the Union, means that there is a wide variety of problems faced by the farmers of the State. That the Station is attempting to solve the problems of Maryland agriculture is indicative of the breadth of the work being conducted. During the biennium the Station has been asked to face several new problems which are costing Maryland farmers large sums of money. It would seem that if the Station is to give the service which Maryland Agriculture needs, an increasing number of problems must be expected. The intensity of present agricultural methods, the drive for greater production per cow, per hen, and per crop acre, leads to ever-increasing problems. In addition, agriculture has become highly commercialized. The sale of farm products and the purchase of farm supplies and equipment have grown to be dominent problems in agriculture. Along with this has grown the importance of taxation, proper financing, efficient use of labor, and a multitude of economic and social questions which a few years ago did not exist with self-sufficient farming. The Station is under constant pressure to broaden its program of work and meet this ever-widening group of problems.

It is difficult to choose from such a broad field, a few results that can be singled out fairly as being of greater importance than others. However, a few of the outstanding results of the biennium will be mentioned.

More and more town and cities are requiring that all milk sold within their jurisdiction must be pasteurized. This program, based upon the health needs of the community, has had broad economic repercussions. The high cost of pasteurizing equipment has meant that only farms with an exceedingly large volume of milk, or men who were dealers in milk could afford to purchase such equipment. The small producer was automatically eliminated from the retail market. The Maryland Agricultural Experiment

Station has developed a small electric milk pasteurizer which has now been offered for commercial production and which promises to place the cost of pasteurization at a point where even the small producer can afford to pasteurize his product and sell it at retail. This development may have far-reaching effects upon the organization of dairy farms and upon the distribution of milk in towns and suburbs of cities. It is undoubtedly one of the great contributions to the small dairyman.

During the same two years much progress has been made in the drying of grain on farms so that it can be successfully stored under Maryland farming conditions. This work of the Maryland Station has taken on a new importance during the last few months with the development of war conditions. It seems obvious that the usual 10-day supply of feeds for the poultrymen and dairymen of the Northeast is going to prove inadequate in the light of pressure upon transportation facilities. Already there have been request for Northeastern dairy and poultry producers to store grain and feed because of the defense activities of the Nation. No single factor affords greater possibility of making such a program possible than the recent developments by this Station in the drying and storing of grain.

Every Experiment Station must attempt to solve the current problems facing the agriculture of the state. At the same time, however, it should be doing some work which will assist in the solution of fundamental problems which give promise of opening whole new vistas of knowledge. For example, the Maryland Agricultural Experiment Station, through its Department of Botany, has made some fundamental discoveries relative to the water content and respiration of seeds and grain. The so-called free and bound water content of grain apparently is the key to successful storage under varying climatic conditions. This fundamental discovery will have practical application in connection with the drying and storing of grain and may eventually be used in virtually all agricultural storage problems. The Botany Department is also working on some of the fundamentals of hybridization, using the gladiolus for determining new facts in connection with the chromosome numbers and the possibility of crossing various species. From this type of work new knowledge of crossbreeding that eventually can be used to obtain practical results has been developed.

The Annual Reports of the Agricultural Experiment Station give in considerable detail the research activities conducted by the Station. The reader who is interested in the more complete reports of the various activities of the Station, is referred to these Annual Reports. The various lines of work in the Department of Agricultural Economics such as farm organization and management, marketing, taxation, finance, and land economics is reported. The work in the Agronomy Department in plant selection, hybridization of small grains, field and sweet corn, and studies in the inheritance of sugar and starch factors in sweet corn. The fertility studies directed in main toward the capacity of soils to retain plant nutritional substances, the assistance given farmers in determining the fertility needs of their soils,

and the general management of crop and pasture land, are given in this report. The studies of nutrition of animals, the curing of meats, the breeding for improvement in hog type conducted by the Animal Husbandry Department, are reported. Studies of the costs and various factors that must go into a proper dairy business in relation to the output of such a business, the study of nutritional factors as well as work with the small electric milk pasteurizer described above, indicate the work of the Dairy Department. Diseases of animals, particularly Blackhead in turkeys, Bang's disease in cattle, are part of the work of the Livestock Sanitary Service. The Bacterioly Department is working with soil fertility problems in connection with the bacterial life in soils and also with efficient disinfectants in the preservation of food products. The Entomology Department is working on the life history and economic control of a number of insects. The Horticultural department is working on the development of new varieties of fruits and vegetables, particularly disease resistant varieties, the efficient placing of fertilizer in relation to seeds and plants in the row, and the influence of sprays upon the quality of fruits and vegetables. A constant check on seed supplies available to Maryland farmers has been carried on by the Seed Inspection Laboratory. The poultry program has become one of the outstanding programs of the Experiment Station. Work on nutrition, management of flocks, marketing and marketing problems, has been vigorously prosecuted during this biennium.

This brief mention of the work of the various departments gives some idea of the great variation in the work of the Agricultural Experiment Station. The Station stands ready to attempt the solutions to all problems that arise in Maryland agriculture. It is evident that there will be an ever-increasing number of these problems.

The Extension Service

T. B. SYMONS, *Director*

DURING this biennium, the Extension Service observed its twenty-fifth anniversary as an organized unit of the University of Maryland. It is a representative of both the University and the United States Department of Agriculture. It was established in 1914, and further developed during the emergency of the World War, and again toward the latter part of this biennium it was called upon to deal with emergency problems.

In contrast to conditions at the time of the first World War, the Extension Service in Maryland at present is a well-organized, experienced, highly-trained, and seasoned group of workers. For more than twenty years there has been a county agricultural agent and a home demonstration agent in each of the counties, supported by a strong corps of specialists in the several major lines. They have won the confidence of their constituents, and have the support and assistance of trained local leaders who have developed through the years.

A more complete report of activities and accomplishments of the Extension Service is published each year, copies of which may be obtained by request.

Methods have been developed whereby a large percentage of the rural people and a considerable number of the urban people of Maryland are served directly by the Extension Service, and substantial benefits accrue to another undetermined number indirectly. A few figures from reports of agents in the counties give an indication of the methods employed and the numbers that are being reached.

In 1940, the county agricultural and home demonstration agents made 24,928 visits to 11,170 different farms and homes in connection with their work. They received 110,075 calls at their offices and 76,416 telephone calls on matters pertaining to extension work and for information desired by people within their counties. They wrote 70,556 individual letters and 3,817 different circular letters. They distributed 56,879 bulletins, mostly on requests from those desiring specific information. They conducted 6,302 method demonstrations that were attended by 116,161 persons, and conducted 84 tours in which 4,085 participated.

Significant of the effectiveness of the many activities conducted is the fact that reports from agents for the year 1940 show that 33,902 farm families and 12,962 other families were influenced by some phase of the extension program. Boys and girls enrolled in 4-H club work represented 5,684 farm homes and 2,360 other homes.

FEDERAL PROGRAMS

The growing complexity of social and economic conditions and the inability of the farmer as an individual to "go it alone" have given rise to many new and complicated programs, each designed to help farmers deal with a particular problem with which they could not cope individually. To interpret these programs, in many cases sponsored by the Federal Government, and adapt them to local conditions, and to direct and correlate them into the one program of helping farm people achieve a higher standard of living has been one of the principal functions of extension workers. Efforts in correlating the programs of the several agencies have been focused in the development of a land use program for each county and for the state as a whole. Farm people of all classes and ages are cooperating in working out such a program.

SOIL CONSERVATION WORK

Among the developments in which extension workers have had a prominent part, perhaps none has greater significance for the future welfare of the farming industry and the State as a whole than the accomplishments in conservation of soils. A law enacted by the General Assembly in 1937 cleared

the way for dealing effectively with the soil erosion problem. It provided that farmers could establish soil conservation districts in which they could voluntarily adopt and carry out programs designed to conserve their soils. With the assistance of extension workers, the farmers in five areas formed soil conservation districts and are carrying out systematic soil-saving programs, and two other such districts are in the process of formation. When the latter are completed, considerably more than 2,000,000 acres of Maryland farm land will be included in definite and systematic programs for prevention of loss by soil erosion and conservation of soil resources.

Extension agents continued to carry much responsibility in the conservation program carried on under the Agricultural Adjustment Administration. Approximately one-half the farms in Maryland were included in that program each year. In carrying out the required soil-building practices, large increases were made in the acreages seeded to grasses and legumes, and in the amounts of superphosphate and lime applied to the land.

RURAL ELECTRIFICATION

The progress made in extending the benefits of electricity to farms and rural homes is one of the most gratifying developments of the last few years. A wide-spread educational program has been necessary as an accompaniment to the rapid expansion in use of electricity due to the extended program of the REA and more liberal attitude of public utilities. Almost twice as many rural electrification demonstrations were held in 1940 as in the preceding year. Interest increased rapidly in new uses for electricity, such as for frozen vegetables and fruits, for pasteurizing milk on a small scale, and for egg cooling.

CROPS AND LIVESTOCK

For years, the value of producing more of the feed for their livestock and dairy animals has been emphasized. Near the beginning of this biennium, the extension workers in agronomy, dairy and livestock joined forces in a carefully planned and conducted program directed at production and feeding of home-grown feeds, and at the same time the maintenance of fertility. Substantial progress has been made and the program is being expanded each year.

Interest in hybrid corn increases rapidly and extension workers are called upon for more and more assistance in connection with the shift of growers to production of their crops from that type of seed. A list of good hybrids is prepared and supplied to farmers each year.

Progress in the livestock industry is not easily set forth, as it consists more largely in improved quality than in increased numbers of animals. Records from the counties show that agents made 1,120 farm visits in connection with beef cattle work; 1,068 with swine work; 352 with horse work; and 439 in connection with sheep work. Members of 4-H clubs engaged in a lamb feeding project each year that proved highly successful, both educationally and financially. It demonstrated the practicability of feeding Western lambs in Maryland.

PROGRESS IN 4-H CLUB WORK

As evidence of the training received in extension work, Maryland 4-H club members made outstanding achievements in 1940. A team of Maryland boys won the national non-collegiate livestock judging contest at the International Livestock Exposition. For the first time, the Grand Champion steer at the Baltimore Livestock Show was bred and owned in Frederick county and was shown by a 4-H club boy.

As in former years, much of the dairy extension work was focused on improvement in quality, both of dairy stock and products, together with greater efficiency and lower costs of production. Two general types of testing were provided under the supervision of extension specialists. In one type, the owners were furnished official record of their cows as individuals, or as herds, which were valuable in planning breeding improvement programs. In the other type, the cows in a herd were tested at sufficiently frequent intervals to provide reliable records for determining the profitable and unprofitable cows.

A Maryland 4-H club judging team won first place in the contest at the National Dairy Show in 1939. Dairy demonstration teams took first rank in the Eastern Division in both 1939 and 1940.

In addition to the various problems associated with production and marketing of fruits, extension workers were called upon to assist with some serious conditions affecting the industry. In 1939, a severe storm blew some 400,000 bushels of apples from the trees just before harvest time, which offered a serious problem to salvage as much as possible of the fallen fruit. The marketing situation has been very difficult through most of the period because of the cutting off of export outlets. Special attention to development of fruit by-products, removal of unprofitable trees and varieties, reduction of damage in handling, encouraging increased consumption, and helping to move surplus fruit through Federal purchasing agencies were among the methods used to help growers meet the difficult situation.

POULTRY WORK

Probably no phase of Maryland agriculture has registered greater progress in the last two years than the poultry industry. In line with this development, the University has greatly expanded its facilities and the Extension Service has extended its activities. A broad program of improvement for both chickens and turkeys was worked out in cooperation with poultry breeders, producers and hatcherymen, in which specialists of the Service, as well as agents, have important responsibilities. Testing for Pullorum disease, and other measures for reducing losses, constitute important parts of this program and considerably more than a half million birds are under strict supervision.

CONTROL INSECT PESTS AND DISEASES

Reduction of the loss caused by insect pests and diseases required work n connection with all kinds of crops, including those grown in the field,

garden, greenhouse, and ornamentals. The most extensive campaign during the last few years was designed to retard the progress of the Japanese beetle. This program was conducted more directly under authority of the State Horticultural Department and is described in greater detail in the report of that department. Both extension specialists and agents joined in prosecuting that campaign.

In addition to the progress in rural electrification, two other phases of agricultural engineering deserve mention from the standpoint of achievement. The building plan service, which has been maintained for a number of years, continued to supply an evident need. Through this service, people of the State can obtain plans for almost any kind of farm building or equipment, with construction details. Each year approximately 350 such plans were distributed in response to specific requests. A drainage project, which has been carried on under direction of the Extension Service in connection with CCC camps located on the Eastern Shore, achieved such impressive results and was so generally approved by those living in that section that a State appropriation and appropriations by two counties were made in order to prosecute the drainage work more vigorously and rapidly.

MARKETING

The numerous and complex problems associated with marketing and distribution of Maryland's widely diversified farm products, together with the purchase of farm supplies, demanded increasing attention. There is need for much greater efforts in the field of marketing than could be carried on with resources and facilities available thus far. Practically all extension workers were able to contribute somewhat in connection with their respective lines of work, and those associated directly with activities in the marketing field expanded their work into some new phases.

The demand for assistance in improving quality of products through inspection and standardization continued strong. Official inspection was provided for apples, peaches, strawberries, potatoes, tomatoes, and sweet potatoes. Egg producers who desired to place their product on the market on the basis of established grades made valuable use of the inspection service. Nearly a million and a half dozens of eggs were inspected each year.

Assistance was given the Maryland Turkey Producers' Association in an effort to market their turkeys under a recognized brand. The name "Sho-Nuff" was adopted and grade requirements were established for turkeys sold under that brand name. A ready sale was found for these high-quality birds.

Specialists and agents of the Extension Service were able to render valuable help to producers of a number of farm commodities in connection with the purchase by the Federal Government of products in which a surplus presented a problem.

The program carried out with rural women and girls has become so broad in its scope that it is very difficult to summarize or evaluate. This is particularly true because it deals with human values, as well as material things.

HOME DEMONSTRATION WORK

While not relaxing their interest in the strictly home-making problems, the women have shown an increasing desire to develop themselves in the so-called cultural subjects. Likewise, they have taken an active interest in affairs affecting the economic situation on the farm and in the farm house.

Full-time specialists assisted the home demonstration agents and homemakers in planning and carrying out definite projects in clothing, foods and nutrition, home furnishing, home management, and girls' club work. Among the projects in the cultural subjects were the family reading course, music appreciation, recreation, art appreciation, and handicrafts. A study of Maryland writers and their works was especially popular. Music appreciation appealed to the rural women and the county choruses which resulted from it made a definite contribution to the cultural life of the communities.

The Rural Women's Short Course, which was held at the University for the seventeenth and eighteenth years, is an important factor in home demonstration work throughout the State during the entire year. The women who attend get a vision of what education means to family life. Through their reports and demonstrations at their home clubs, the influence of the short course is extended throughout the year.

NEGRO WORK

Extension work with Negroes, including men, women, boys and girls, is conducted along the same general lines as for whites, with adaptations to meet their special needs and conditions. In areas where the Negro population is greatest, special colored workers are employed; in other areas, the work is conducted by the white specialists and agents.

As in former years, the Extension Service has enjoyed the whole-hearted support and cooperation of the farm organizations and other agencies interest in development of agriculture and rural life.

The State Horticultural Department

WORK conducted by this department is under the supervision of the Director of the Extension Service and is coordinated with extension work. Late in the biennium, Dr. Ernest N. Cory, State Entomologist, was designated Assistant Director of the Extension Service in charge of all plant regulatory work.

The Department of Entomology is responsible for enforcement of insect quarantines, inspection of nurseries for insects, and the control and sup-

pression of injurious insects. In addition to regulatory work, members of the staff are constantly requested by citizens to investigate insect outbreaks on farms, in vegetable and flower gardens, in forests, on estates, in homes, and in public buildings. Most of the requests involve insects affecting plants, animals, household products, and termites.

Considerable time was devoted also to investigation of the biology of the major pests, and the efficiency of insecticides for their control. Recent investigations included major pests affecting fruit orchards, vegetable crops, grass lands, greenhouse crops, shade trees, and nursery stock. Specimens of a wide variety of insects are received each year for identification and recommendations for control.

All nursery inspection was done in cooperation with the State Plant Pathologist. To date, 213 of the 297 nurseries requiring inspection have been issued certificates and the remaining number will be inspected in the spring.

During the year 1940, 959 certificates were issued to Maryland nurserymen to file in other states. Based on inspection at the time of packing, 100 certificates were issued for foreign shipments and 124 for domestic shipments. In connection with the White Pine Blister Rust Quarantine, 76 permits were issued after approval by the State Plant Pathologist.

Issuing of permits to cover shipments of nursery stock, farm products, and other materials which are regulated by the Japanese beetle quarantine necessitated a large volume of work in cooperation with the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture. This work is essential, as it guarantees people living in the regulated areas markets in the non-regulated areas. A detailed list of inspections made in this phase of the work is contained in the annual report of the State Entomologist.

One of the most important endeavors in the field of insect control during the last two years was a comprehensive Japanese beetle retardation and control program. The main objectives were to delay the increase and spread of beetles in lightly infested areas, and to cooperate with farmers and others in controlling the beetles in heavily infested areas, looking toward a permanent relief through establishment of a biological complex which will consist of parasites and disease. The methods employed included biological control, trapping, lawn treatments, sprays and dusts, and planting plans and agronomic practices.

Material was produced for treating 4,533 acres of land in the heavily infested area of Cecil county with Milky White disease, which is very destructive of beetle grubs. Two field demonstrations in that county indicated that from 60 to 80 percent of the grubs in treated land will be killed in one year. Colonies of two species of parasitic wasps have also been liberated and surveys show that many have established themselves. They

are being reared in large numbers for liberation. A total of 127,122 trap, were employed during 1940. These traps caught 918,207 quarts of beetless which is equivalent to 275.4 tons. Investigations carried on by this department resulted in the production of a very cheap but efficient trap which effected a large monetary saving in the operation of the program.

More or less extensive work was done in connection with the control of a number of other insects which are of great economic importance in the production of various kinds of crops. They include the codling moth and other pests of apples, insects injurious to peaches, pea aphis, European corn borer, tobacco insects, potato insects, ant control, termites, and a long list of miscellaneous insect pests. Correspondence of the department amounted to more than 10,000 letters a year, which was supplemented by 8,833 circular and form letters and the distribution of more than 26,000 circulars and bulletins.

Among the activities conducted under R. A. Jehle, State Plant Pathologist, the inspection and certification of strawberry plants assumed importance. Approximately 140,000,000 plants are produced in Maryland each year with an average value of about $455,000. Prior to 1937, only one inspection of strawberry fields was made each year, but after the discovery of Red Stele, spring dwarf, and crimp diseases in the strawberry plant producing areas of the State, it not only became necessary to make the inspections much more thoroughly, but also to make additional inspections. In 1939, 914 acres of strawberry plants were inspected in the spring and 695 acres in the fall, and permits were refused for 172 acres on account of the presence of diseases. In 1940, 1,009 acres were inspected in the spring and 787 acres in the fall, and permits were refused for 101 acres.

Inspection and certification of white and sweet potatoes was continued. In spite of the low prices received for potatoes during the past two years and the decrease in acreage throughout the State, the requests for certification service remained approximately the same. In 1939, 285 acres of potatoes produced by 103 growers were inspected. Of these, 23,848 bushels, produced on 203 acres by 73 growers, were eligible for certification. In 1940, 370 acres, produced by 119 growers were inspected, of which 32,810 bushels produced on 260 acres by 86 growers were eligible for certification.

Requests for certification of sweet potatoes resulted in 5,620 bushels being declared eligible in 1939, and 11,625 bushels in 1940.

Work on eradication of potato wart by planting varieties immune to the disease in gardens known to be infected with the wart organism, or by avoiding the planting of potatoes in those gardens, has been continued. In 1939, 28 bushels of Irish Cobbler and Spaulding Rose potatoes, both immune to potato wart, were distributed for planting 10 gardens known to be infected with the disease. In 1940, 12 bushels were distributed to 7 wart-infected gardens. Many infected gardens may become free from wart in 10 to 15 years, when no susceptible plants are grown. As long as the disease remains in Maryland there is danger of its dissemination to important potato pro-

ducing areas and, if this takes place, a quarantine will undoubtedly be established against Maryland potatoes. It is hoped that funds will be made available to eradicate this serious menace to potato growers of the State.

Four years ago, six cases of Dutch elm disease were reported in Maryland, but no new cases have occurred since that time. Specimens from all elms suspected of having the disease were sent to the Federal Dutch Elm Laboratory for investigation.

White Pine Blister Rust has been found in all counties where pine trees grow naturally and where they have been planted extensively for forest and landscape purposes. In cooperation with the Federal Bureau of Entomology and Plant Quarantine, the spread of this disease has been checked by refusing to allow nurseries to ship currant and gooseberry bushes where they are ordered for planting within 900 feet of any white pine tree. During the last two years, 201 requests for shipment of currant and gooseberry bushes were received by the State Plant Pathologist. Of these, 166 were granted and 35 were refused.

Maryland Live Stock Sanitary Service
and
Department of Veterinary Science

MARK WELSH, *State Veterinarian*

1 As the value of live stock increases and the shortage of practicing veterinarians become more acute, this agency is called on with greater frequency to assist stockmen and poultrymen.

The shortage of professional, clerical, and other assistance has thrown a greater burden on those remaining and this added responsibility and work has been cheerfully accepted.

2 For the first time in fifteen years a serious outbreak of rabies has occurred in the state in the vicinity of Baltimore. Through the cooperation of the state and city agencies working with the Maryland State Board of Agriculture, Live Stock Sanitary Service, apparently successful procedures are being employed to control and eradicate this dangerous infection. It is evident that rabies cannot be kept out of the city when it is prevalent in the counties, nor out of the rural areas when it exists uncontrolled in urban areas. A state dog tax law efficiently administered would be self-supporting and through the elimination of stray and unwanted dogs would aid greatly in the eradication of rabies, in reduction of losses of live stock and poultry, and in the conservation of small game and wild life. The enactment of such a law should be given serious consideration at the next session of the Legislature and we feel that its enforcement could properly be placed with the Live Stock Sanitary Service.

3 Outbreaks of anthrax occurred on five farms in the vicinity of Frederick. In each instance the infection was promptly diagnosed in our laboratories and control measures instituted which prevented further loss or spread of the disease. This infection is rapidly fatal for domestic stock and occasionally causes death in humans, and we have, therefore, fully cooperated with the health departments in these cases.

4 Bovine tuberculosis has been reduced to the point where it is not the serious economic and human health menace that it was a few years ago. Neither should we assume that it has been eradicated nor that testing programs can be abandoned. Within recent months it has been found in a few of our best herds and in some instances caused heavy financial loss and serious interference with genetic programs. These occurrences are not numerous but they should be accepted as factual evidence that a relaxation in our present procedures could easily cause serious consequences in a few years. Virtually all commercial herds are tested under our supervision annually and each third year an area test is conducted in each county and an effort is made to test all cattle at that time that are not in accredited herds. This comprehensive check on the cattle in the state should insure against recurrence of wide-spread infection.

5 The state-federal cooperative program on Bang's disease is making quite satisfactory progress despite the rising cost and scarcity of replacement cattle. In the past year there has been a very decided trend toward the employment of calf-hood vaccination as a supplement to the test and slaughter method for the control and eradication of this infection. Approximately 400,000 blood samples were submitted for examination during the past two years and area tests have been completed or will be shortly on fifteen of our twenty-three counties. In the remaining eight counties, which constitute the more important dairy sections, from 25% to 50% of the cattle are under supervision. There are at present over 3,500 herds containing approximately 60,000 cattle accredited as being free of Bang's disease which is about 20% of our total cattle. Over 60% of the cattle in the state are under some type of supervision for Bang's disease. With the heavy demand for milk the current high price of cattle, and the difficulties of purchasing replacement stock, the use of calfhood vaccine as a supplement is proving most economic. The procedures which were, in part, developed and initiated by this department are being increasingly employed in states having similar problems.

6 In 1935 tests for pullorum disease were made on 209 flocks containing 59,833 birds having an infection rate of 6.1%. The demand for this service has steadily increased and in 1940-41 1,332 flocks were tested containing 431,503 birds having an infection rate of 3%, and in 1941-42 tests were made on 1,619 flocks containing 596,036 birds with an infection rate of 2.8%. In the past two years, therefore, 1,027,539

birds have been tested. Records indicate that this infection is being more rapidly brought under control in Maryland than in any statethat is cooperating with the federal government on this work.

7 Cooperative research work on Bang's disease with the Federal Bureau of Animal Industry has made decided progress. A new technique has been developed for immunizing cattle against Bang's disease as well as new methods for determining the degree and length of immunity. If the experimental results prove equally effective under field conditions much of the objection to vaccination will be eliminated.

Cooperative research work is also conducted on mastitis and several herds have been freed of this infection. This is by far the most costly disease of dairy cattle and we feel that greater sums should be allocated for a more intensive and extensive study of means for controlling it.

8 A modern visible index record keeping system has been installed for recording the official work being conducted in Maryland herds. When in full operation this system should give us more complete control and better information than was ever available in the past.

9 Major H. L. Armstrong was called to active service with the Army Veterinary Corps. Doctor William R. Crawford has suffered a protracted illness from undulant fever, and Doctor Charles H. Cunningham has resigned to accept a position in Rhode Island State College.

Doctor Mark Welsh was appointed a committee member of the Procurement and Assignment Service for Physicians, Dentists, and Veterinarians of the Third Corps Area. Doctor A. L. Brueckner was appointed chairman of the veterinary committee for the same service for Maryland. Doctor Welsh was re-elected Secretary-Treasurer of the United States Live Stock Sanitary Association, and was appointed to the public relations committee of the American Veterinary Medical Association. Doctor Melvin Rabstein and Doctor Charles Cunningham presented research papers before national associations during the past two years.

10 Slightly less than 1,000,000 examinations were made in our laboratories on blood, milk, and tissues submitted for test during the last two years. The coordination of the field and laboratory services has been an effective means of reducing live stock and poultry losses and is being duplicated in certain other states as rapidly as possible.

Forestry Department Report

F. W. BESLEY, *State Forester*

FOREST PROTECTION

THE protection of the forests from fire constitutes one of the more important branches of State forestry work. It is the first requisite for the successful and economical practice of forestry. The Department has been

earnestly striving to build up a protective organization to meet imperative needs, but with the inadequate appropriation for the purpose, it has been utterly impossible to provide a sufficiently efficient fire fighting force.

The protective organization consists of approximately 626 forest wardens with full authority to employ assistance and take any necessary measures in combating forest fires. These men, scattered throughout the State, are paid no salary, but only a small hourly rate for services during the time they are actively engaged in fire fighting. Most of these wardens have registered crews of from five to twelve men, who agree to respond immediately upon the call of the warden.

There are 32 forest fire towers, each manned by a lookout during the fire seasons. Forest guards are stationed at or near the towers to investigate smokes, warn persons who are careless and control fires in their early stages, calling on the wardens for assistance, when needed. The Civilian Conservation Corps and the National Youth Administration have also aided considerably in the sections adjacent to their camps, as second line of attack, when reserve manpower is needed.

During the year 1939, there were 1,362 forest fires in Maryland, which burned 18,142 acres of protected area, causing property damage amounting to $58,039 and costing $5,218 for services and expenses of wardens and helpers in extinguishing these fires, borne half by the counties and half by the State. In 1940 there were 1,186 forest fires which burned 17,762 acres of protected area, did an estimated damage of $57,584 and cost $7,967 for fire fighting services and expenses. In addition to the expenses for actual fire fighting, $45,228 was expended by the Department of Forestry for supervision, equipment, travel, telephone and lookout service during 1939 and $44,113 was expended for similar purposes in 1940.

In general it may be said that fire conditions in Maryland, during 1939 and 1940, were favorable to forest fire control, but the number of fires during both years was above the usual one thousand fires expected in the average year. This was due to unusual fire conditions in which fires were distributed throughout both years with unexpected prevalence of fires in January, February, June, July, August and December, instead of the usual two well defined fire seasons; namely the spring season from March 1 to June 1, and the fall season from October 10 to December 10.

The acreage loss in forested area burned amounts to 0.48 of one percent in 1939 and 0.50 of one percent in 1940, of the total forested area of Maryland. This is about five times the 0.10 of one percent of the forest acreage which has been set as the allowable burn toward which the Department is striving.

COMPARATIVE FOREST FIRE RECORD FOR MARYLAND

Year	Number of Fires	Size of Average Fire Acres	Total Protected Area Burned	Forest Area Burned	
			Acres	Percent	Acres
1930	2,313	44¼	102,311	2.83	63,002
1931	1,086	26-1/5	28,525	.88	19,633
1932	1,265	13-1/5	16,711	.48	10,605
1933	685	12½	9,618	.22	4,900
1934	945	13-1/5	13,807	.34	7,528
1935	772	13-2/3	10,311	.16	4,791
1936	1,380	14¼	19,704	.49	10,925
1937	1,317	13½	17,889	.44	9,761
1938	1,344	11¼	15,101	.42	9,333
1939	1,365	13-3/10	18,142	.49	10,793
1940	1,186	15	17,762	.50	11,090

STATE FORESTS

There are nine State Forests in units of varying size, distributed in all of the main physiographic divisions, as follows:

Name	Acres	County	No. of Users
Swallow Falls	7,133	Garrett	83,268
Potomac	10,327	Garrett	27,924
Savage River	48,684	Garrett	59,717
Green Ridge	23,071	Allegany	31,382
Cedarville	3,509	Charles & Pr. George	771
Doncaster	1,464	Charles	110
Elk Neck	3,762	Cecil	Not listed
Seth Demonstration	125	Talbot	
Pocomoke	9,370	Worcester	24,400
Total	107,445		227,572

There has been a large increase in two of the State Forests during the biennium. One, the Savage River Forest, by addition of approximately 31,000 acres of land unsuited for agricultural use, acquired by the Federal Government, but turned over to the Forestry Department under a 99 year cooperative lease agreement, to be administered for forest, wild life, and recreational uses. The other is an addition to the Pocomoke Forest of 6,800 acres, under similar conditions. These lands are mainly forested and lie within, or adjacent to, existing State Forest areas, hence are easily incorporated under State Forest administration. An important addition to the Swallow Falls State Forest was the acquisition of the beautiful Swallow Falls and the Falls of Muddy Creek, together with a primeval hemlock forest.

Hunting and fishing are permitted in State Forests during the open seasons—in fact, these lands are about the only public hunting and fishing grounds available in the State.

Wild life management is a definite part of the State Forest program. While hunting and fishing are allowed in season, the game laws are effectively enforced on these areas with the aid of both the forest wardens and the game wardens. In cooperation with the Game Department certain restricted areas within the forest boundaries have been set aside and enclosed with wire for wild life sanctuaries. In these areas, usually of about 100 acres each, game animals and birds are undisturbed, and they serve as breeding grounds, from which the excess population will spread out into adjacent areas open to hunting. Seven of these sanctuaries were established during 1939 and 1940, four on the Pocomoke Forest, two on the Savage River Forest and one on the Potomac Forest.

The New Germany area of the Savage River State Forest is being developed for intensive recreational use. Around the 12 acre lake is a group of attractive log cabins, provided with a water and sewer system. In another section is a tent camp area with tent platforms, tables, fire-places and latrines. A large spring furnishes the water supply. Another class of accommodations is provided in the Big Run area a few miles from New Germany, where cabin groups have been established in primitive surroundings, freely accessible by good roads. Cabins are rented by the week at moderate prices. The demand for these cabins has demonstrated the need of increasing such accommodations. Additional cabins are under construction whicch will, in another year, double the present capacity.

A somewhat similar development is under way on the Swallow Falls State Forest in the Herrington Manor area. Here a dam has been built on Herrington Creek, making a 52 acre lake. Ten cabins have been completed with a water and sewer system. A bath-house has been built, a beach provided and ten other cabins are under construction.

On all the State Forests facilities are provided for camping and picnicking.

A venture into the winter sports field, now so popular, was undertaken in the New Germany area of the Savage River Forest. This section, according to the weather records, has the greatest snow fall and stays longer than anywhere else in the State. This, coupled with good skiing slopes and accessibility, induced the Department, after a favorable report by experts, to lay out three ski runs,—two on open slopes for general use, and one off the mountain through the forest for experts. This project cost very little and is regarded as experimental. The first season has proven most successful.

STATE PARKS

The State Parks, seven in number, have been but slightly added to during the past biennium. The present holdings, as of September 30, 1940, with the number of users for the year, are as follows:

Name	*Acres*	*County*	*No. of Users*
Fort Tonoloway	20	Washington	
Fort Frederick	189	Washington	49,378
Washington Monument	42	Washington	102,756
Gambrill	1,088	Frederick	65,473
Patapsco	1,546	Baltimore & Howard	496,664
Elk Neck	808	Cecil	9,160
	3,693		721,431

It will be noted that the Patapsco State Park had the greatest number of visitors, which is due to its proximity to Baltimore. An interesting note is that May seems to be the most popular month in the year for visitors to this park—39,080 people visiting the area during May, 1939 and 53,775 during May, 1940. The fact that it is the opening of spring and that all shore resorts do not open until June probably accounts for this.

Washington Monument is the next most popular area. During 1939, 14,382 automobiles visited the area with at least one from every State in the Union, excepting Nevada, also six foreign countries were represented. Maryland, as would be expected, led the number with 10,788 cars; Pennsylvania was next with 969; District of Columbia 963; Ohio, 364; West Virginia, 314; Virginia, 176; Michigan, 153; and Illinois, 145.

The Gambrill State Park area is still in process of development by a CCC camp, but even now there are a great number of visitors.

Elk Neck, while not open to the public as yet, drew over 9,000 visitors.

Shorter working hours have increased the use of the recreational areas of the State Forests and Parks. These areas were developed through the aid of Federal funds, such as the C.C.C. and the N.Y.A. A conservative estimate of construction improvements alone, can be placed at nearly $1,000,000. In accepting the allotment of CCC camps for work in Maryland, the State pledged itself to maintain the improvements resulting from such work. An allotment of $100,000 out of the bond issue which became due February 15, 1940, will enable the Department to take care of the improvement maintenance and provide some money for land purchase for forests and parks. The immediate need of additional personnel for administration is still unprovided for.

CIVILIAN CONSERVATION CORPS.

Since the spring of 1933 there have been a number of CCC camps working on State Forest and State Park lands. During the biennium there were 7 of these camps working on State Forest and one on State Park lands. The accomplishment up to October 1, 1940, on State Forest land was:

Roads and Truck Trails	345.2 miles
Telephone lines	221. "
Foot and horse trails	109.1 "
Dwelling and other buildings	35
Cabins	46
Picnic shelters	40
Outside fireplaces	95
Table and bench combinations	274
Spring and waterholes	137
Lookout towers	14
Fire trails	958.1 miles
Fire hazard reduction	12,739 acres
Stand improvement	53,354 "
Stock survey	83,792 "
Fighting Forest fires	20,475 man days

In addition much development and improvement work has been accomplished on the five State Parks. This work has been completed on Fort Frederick, Washington Monument, Gambrill and the Patapsco. The only park camp is now working on the Elk Neck State Park in building and road construction, and general improvements.

STATE FOREST NURSERY

The need for growing and distributing, at the lowest possible cost, small seedlings and transplants for reforesting the estimated 200,000 acres of unused waste land scattered throughout the State, prompted the Department to establish in 1912 a State Forest Nursery, on lands of the University of Maryland. This has become an important project in serving a real need. The capacity of the nursery has been increased from time to time to meet the growing demand. A variety of standard trees, suitable for planting on a variety of soil sites, is produced and sold at cost for forest and windbreak planting.

The distribution the fiscal years 1939 and 1940 was 1,501,400 small seedlings and transplants for forest and windbreak planting.

The enactment of the Roadside Tree Law in 1914, with responsibility for its enforcement, placed on the Department of Forestry, focused attention upon the need of planting trees along the roadsides to increase their attractiveness. To meet this need the Department began the growing of larger, well-developed shade trees for the purpose. The distribution of such trees is limited to planting along the public highways and on publicly owned lands. Trees are not grown or distributed from the State Nursery for ornamental planting—a field which is served fully by the commercial nurseries. The distribution of roadside planting stock the last two fiscal years was 8,550 trees.

ASSISTANCE TO PRIVATE OWNERS

Over 90% of the 2,300,000 acres of forest land in Maryland is privately owned, and therefore not subject to any public regulation or control. Some owners handle their woodlands in accordance with good forest practice, some are careful to keep out fires and to exercise some care in selecting trees for cutting, but the great majority look upon the woodland more as waste land, not fit for a more productive crop and therefore deserving of little attention. The average owner is unwilling to spend money in the improvement of his forest, with no immediate return. When he has merchantable timber to sell—perhaps some timber buyer has made him an offer—and knowing little about timber values he feels the need of help. It is at this point that the service offered by the Forestry Department has the greatest appeal, and where it has been of the greatest help.

This consists of free examination and advice. In cases where special service is required in selecting, marking and measuring timber for cutting, a cost charge is made. This appears to be the only practical way to give the

owner the complete service he requires and at the same time insure proper handling of the woodland for continuous timber production under a selection system. It has proven successful and the service should be greatly extended. This is the most effective way known of bringing about better forestry practice in private timber land under controlled cutting in which the owner himself has a prominent part.

The following is a list of the examinations made under this plan during the fiscal year:

55 woodland examinations, comprising 14,252 acres, in 12 counties.
15 woodland markings, comprising 1,070 acres, in 7 counties.
16 forest planting plans, comprising 161 acres, in 8 counties.
6 roadside planting plans in 5 counties.

ROADSIDE TREE WORK

The State Department of Forestry is charged, under law, with the responsibility of protecting and conserving the public interest in roadside trees. The development and maintenance of trees along highways is a long time process, requiring an established policy with proper standards of treatment to secure satisfactory results. In the discharge of this responsibility, the Department has set up certain requirements, which apply to all, whether companies or individuals, who apply for permits to remove or trim roadside trees. Roadside trees are defined in the law as "All trees planted by the Forest Wardens, or existing trees three inches or more in diameter, measured two feet from the ground, that may be growing within the right-of-way of any public road or between the curb lines and property lines of any street in an incorporated town in this State."

Twenty-six years of operation under this law has served to build up confidence in the Forestry Department on the part of property owners and the public generally in protecting trees along the highways. This has been a difficult task with the conflicting interests involved. On the one hand are the telephone, telegraph and electric light companies, where the trees interfere with their overhead wires and who, from their maintenance standpoint, would like to see trees entirely eliminated. To some extent the highway authorities share this same feeling with respect to trees so related to road maintenance. On the other hand are the property owners who regard trees as the highest type of roadside and street beautification, adding to the value of their property, and the public which generally regards trees highly as adding to the comforts and attractions of travel. The Forestry Department must give sufficient clearance to the overhead wires to maintain service, which it does through a permit system and supervision of trimming, but at the same time it must protect the interests of the property owners and the public in preventing unnecessary damage to the trees. The generally satisfactory relations, which the Department has with the pole line companies, and the support given to it by the public and organizations interested in maintaining attractive roadsides, are the best evidence of approval of the program.

The policy and procedure adopted by the State Department of Forestry in carrying out its responsibility under the Roadside Tree Law, Sections 16 to 25, Article 39A, may be breifly summarized as follows:

1. A permit is required for the cutting and trimming of any "roadside tree," whether by indivudual, corporation or institution, and the requirements of the permit are that the operation must be supervised by a commissioned Forest Warden, unless in certain cases of tree removal or other properly qualified supervision, State supervision may be waived. This is the only effective means of tree control and regulation under the law.

2. The applicant for a tree permit, if the application is granted, is required to pay to the Department the actual cost of supervision of the work in conformity to a scale of published rates which are considered reasonable and proper. The work has to be practically self-supporting as no State appropriation has ever been made to carry on this activity.

3. The men employed in tree work are regularly commissioned Forest Wardens assigned to the job after a period of special training and paid an hourly rate for actual service rendered.

4. Each roadside tree is treated individually from the standpoint of relative importance so far as trimming or removal is concerned and every tree is preserved as long as it serves a useful purpose. Where trimming is required for wire clearance the trimming is done in such a way, under careful supervision, as to preserve the tree in good condition. Proper trimming standards are maintained through an inspection service performed by special tree inspectors and the regular forest officers.

5. It is estimated that there are more than 3,000,000 trees along the public roads and streets that come under the protection of the Roadside Tree Law. Each year supervision is required for the trimming of approximately 400,000 of these trees by the pole line service companies, towns, counties and individuals, throughout the State, which is a large responsibility.

6. The Forestry Department under heavy handicaps is earnestly and conscientiously trying to do a good job in protecting roadside trees. Any public agency charged with law enforcement and regulatory control is liable to criticism, especially by those it attempts to regulate. However, the general public approval of this service is proof enough of its merit.

EDUCATIONAL WORK

The Forestry Department, in its activities, covers every section of the State and all classes of people. With the large proportion of forested land privately owned, the practice of forestry must necessarily be promoted by contacts with these owners in forest protection, forest management and tree planting.

The Department representatives are being constantly called upon to address various organizations, schools, service clubs, and the like, and as full use of these opportunities is taken as time and travel expense will permit. In addition, exhibits and demonstrations are conducted, news articles prepared, and all of the other forms of presenting forestry to the public are being used as fully as possible.

State Geological Survey

EDWARD B. MATTHEWS, *State Geologist*

THE following is a brief summary of the operations of the Maryland Geological Survey during the two years ending September 30, 1940.

In accordance with the general program of the State Geological Survey, the work may be divided as follows:

I. Cooperative Work
   - A. With the U. S. Bureau of Mines in gathering statistics of the mineral production in Maryland.
   - B. With the U. S. Geological Survey and the Upper Potomac River Board in maintaining stream gaging stations in Western Maryland.
   - C. With the Maryland State Planning Commission in the compilation of a Gazetteer of Maryland.

II. Field Work
   - A. Revision of Topographic Maps of:
     1. Anne Arundel County
     2. Baltimore County
     3. Howard County
     4. Montgomery County
   - B. Geological Mapping of
     1. Howard County
     2. Washington County

III. Publications
   - A. Topographic Map of Howard County
   - B. Geological Maps of
     1. Charles County
     2. Frederick County
     3. Howard County

IV. General Utility Service: As in the past the Survey has served as a Bureau of Information regarding the physical features of the State. This is especially important with respect to underground waters, and scarcely a day goes by without advice of this sort being sent out. Other agencies have been furnished information, including the State

Mine Inspector, the State Planning Commission, the consulting engineer of the Municipal Airport, the Baltimore Association of Commerce, etc.

V. Work in Progress
   A. Completion of Geological Map of Washington County.
   B. Publication of Geological Map of Washington County with brief report.
   C. Revision of Topographic Map of Harford County.
   D. Revision of Topographic Map of Talbot County.
   E. Geology of the Crystalline Rocks of the State: This work has been in progress for some years looking forward to the publication of a comprehensive report which it is hoped will be completed within the next year or two.
   F. Study of underground waters.

College of Arts and Sciences

L. B. BROUGHTON, *Dean*

THE College of Arts and Sciences provides four years of liberal training in the biological sciences, economics, history, languages and literature, mathematics, philosophy, the physical sciences, political science, psychology, sociology, speech, music, and art. The college also offers to the students of other colleges of the University training in fundamental subjects, both cultural and scientific, permitting them thereby to acquire the perspective needed for liberal culture and public service.

The academic staff of the college consists of 164 faculty members—22 professors, 10 associate professors, 38 assistant professors, 37 instructors, and 57 graduate assistants, assistants, fellows, and lecturers. The staff of the College of Arts and Sciences is to be commended for its excellent work in raising and maintaining the standards of the college under limited circumstances. The policy of the college is to provide sound training in fundamental subjects, aiming to be progressive under our present day system of education while at the same time avoiding current educational fads.

For the academic years 1939-40 and 1940-41 the faculty of this college was responsible for approximately 62 percent of the total number of student hours of undergraduate instruction for the University at College Park. The student enrolment in the college for 1939-40 was 1,014, and for 1940-41 it increased to 1,052.

In addition to the regular academic teaching, members of the staff have given instruction in evening courses. In Chemistry, courses were offered in Baltimore for chemists engaged in industry, and at College Park courses were offered for those connected with government departments, such as

the United States Department of Agriculture and the National Bureau of Standards. Instruction was also offered in the Summer School sessions, in evening courses designed for teachers in the public school system, and in the university extension courses offered in the State.

The work done by the College of Arts and Sciences in the School of Dentistry and the School of Pharmacy has continued to be of high quality because of the efforts of the staff members assigned to this work.

During the biennium members of the staff delivered a series of lectures to the undergraduate student body. These were supplemented by prominent lecturers on current and timely topics.

In the graduate field the college has continued to maintain the high standards and rigid requirements for the advanced degrees. Graduate work leading to the degrees of Master of Arts, Master of Science, and Doctor of Philosophy, is being offered in Chemistry, Economics, English, History, Mathematics, Modern Languages, Political Science, Physics, Psychology, Sociology, and Zoology.

Close contacts with the industries of the State and the government laboratories have resulted in the introduction of many research problems conducted by various departments of the college. Research fellowships have been established with the Bureau of Standards, the Bureau of Mines, and the National Bureau of Fisheries.

In collaboration with the Federal Government, the Department of Chemistry and Psychology are contributing to the study of problems in national defense.

During 1939-40 and 1940-41 degrees were conferred upon 209 undergraduate students. Of this number 140 were awarded the Bachelor of Arts degree and 69 the degree of Bachelor of Science. In the field of graduate study during this same period the departments of the college presented 23 candidates for the degree of Doctor of Philosophy, 32 for the degree of Master of Arts, and 15 for the degree of Master of Science.

During the past biennium members of the staff delivered more than 500 public lectures throughout the state. Addresses were delivered before civic and service clubs, high school groups, and at commencement exercises before audiences numbering more than 50,000 persons. In times such as these this service is extremely valuable. The University will be called upon more and more in the future to render this type of service. If democratic institutions are to be preserved and are to function with a degree of success, it is essential that the people be properly informed. This can best be done by men whose experiences and educational background qualify them to analyze and study the various problems confronting a people. Only a small percentage of the people have the opportunity of gaining first-hand information about national and international problems. The dissemination of this information in an attempt to stimulate thought among the

people who must of necessity shoulder the responsibilities for democratic living, is a service the University of the future must more and more be willing to render. Intelligent leadership must be based on knowledge and information, and this information cannot be restricted to the students within our colleges. It must include that large percentage of our population beyond the college age. This group must constantly be stimulated to proper action. No better agency than the University exists for the purpose of assuming this task.

To stimulate scholarly advancement the college has encouraged its members to conduct research and investigations in their special fields. This work is carried on in addition to the regular teaching assignments. As a result 130 papers and 5 books were either published or edited. In addition 47 books were reviewed for various publishers and periodicals.

The college has encouraged its members to attend the meetings of their respective associations and to participate in the proceedings. Many of the members of the staff have taken an active part in association activities and several hold official positions in national and regional societies.

During the past biennium the college has moved to new and more adequate quarters. Additional office space has been made available to members of the staff previously handicapped by crowded office conditions. With an increased staff and a greater need for classrooms and laboratory space it is hoped that this college can look forward to additional quarters in order to facilitate its progress.

The requirements of the various departments are gradually being met in the University Library. New books, additional references and duplicate volumes, as well as journals have been added. Because of the rapid development and changes, especially in the natural and social sciences, the need for current periodicals is imperative.

DIVISIONS OF THE COLLEGE

The organization of the College of Arts and Sciences into divisions, instituted during the preceding biennium, has been continued. This administrative division has effected the desired administrative and academic correlation. It has proved helpful in providing better guidance for students in the selection of courses, and arranging for proper sequence of courses in a chosen field.

* * * * * * *

To complete the structure of the sciences as related to the Liberal Arts and to render necessary service to the applied work in Agriculture and Engineering, the outstanding science need is the creation of a strong Department of Geology. During the past year more than 100 students pursued elementary courses in geology offered during the first semester. Such introductory courses, however, do not serve the real need of the University

in the geological sciences. There is urgent need for the appointment of a Professor of Geology. It should be his function to survey the opportunities of service within and without the University. He would be expected to organize adequate curricula, select suitable associates, and to bring to the attention of Maryland industries depending upon Geological sciences, the opportunities for training and research to be offered by the proposed department.

In the early development of the University of Maryland at College Park, interest was chiefly focused on agriculture, engineering and science. This made it inevitable that such branches as English and the Modern Languages should have been developed so that today we may boast of strong departments in these branches. On the other hand such fields as dramatics, music, art, the classics, philosophy, and speech have not been sufficiently developed. Attention must now be directed toward the further development of these departments since a large number of students with diversified interests are being attracted to these fields.

The Departments of English and Modern Languages have within recent years developed from good teaching departments for undergraduates to departments offering sufficient graduate work for the degree of doctor of philosophy. These departments have also played a prominent role in establishing standards in English and Modern Languages for the secondary schools of the State. Excellent men have been added to the staffs of these departments, and their research has contributed to gaining national recognition for the University.

In addition to the necessity of keeping the staff abreast of the growing demands of the student body there exist two primary needs in the English Department. A course in journalism should be added to serve the need of embryo journalists who desire this training coupled with the work on student publications. Such a course, combined with existing courses in writing, literature, languages, history, etc., should serve as a good background for a journalistic career. The department's plan to establish a connection with the Folger Library, the richest Shakespeare collection in America, by engaging its assistant director to give a graduate seminar on this campus, has been realized in this biennium. This has added considerably to the prestige of the department.

With the present emphasis on the establishment of better cultural relations with Latin America, the Department of Modern Languages requires the services of a specialist in Spanish-American literature. This specialist should be of professorial rank and entrusted with the task of developing among the students a greater appreciation of our neighbors to the south.

The University is equally obligated to train teachers in music. Fine work is being done in the field of choral music but the field of instrumental music is practically undeveloped. At least one teacher should be added to the staff, preferably one trained to offer courses in the theory of music.

In the field of Art a good beginning has been made by providing several courses in the history of art. There exists a real need for courses in graphic art, drawing and water color. An instructor should be engaged immediately to develop this work. During the past year several exhibitions of paintings and etchings were held in a classroom. Considerable student interest was evidenced in these exhibitions, and it is recommended that a better location be provided for future exhibitions.

The Division of the Social Sciences has experienced a rapid expansion. This growth may be attributed to the attempt to meet a need for adequate instruction in fields until recently quite generally neglected in institutions of higher learning throughout the country. The growth of this division, though rapid, has been healthy, and there is no reason to assume that the Departments of Economics, History, Political Science, Psychology, and Sociology should not continue to forge ahead to leadership in their respective fields.

The Feed, Fertilizer, Lime and Insecticide Inspection Service, a division of the Department of Chemistry, continued its efficient service in controlling the manufacture and sale of those commodities so vital to the agricultural interests of the State.

The Faculty and staff of the College of Arts and Sciences wish to express their appreciation to the President and the members of the Board of Regents of the University for their whole-hearted support and encouragement.

College of Education

HAROLD BENJAMIN, *Dean*

DURING the biennium 1939-1941 the College of Education had an enrollment of from 431 undergraduate students in the first semester 1939-40 to 471 undergraduates in the second semester, 1940-41. Approximately 280 of these students each semester were full time students. The remainder were part-time students taking work in night courses. During the biennium approximately 179 young men and women have been graduated from the College of Education and about two-thirds of them were appointed to teaching positions in the schools of Maryland. Most of the remainder received teaching positions in the District of Columbia or in neighboring states with the exception of many of the young men who entered the armed forces of the United States during the academic year 1940-41. During the year 1940-41 the faculty revised various curricula in the college and set up a system of better selection and guidance of its students with the object of steadily improving the quality of its services to prospective teachers.

In addition to the work of preparing these young people for educational work the faculty of the College of Education has also taken part in the in-service preparation of teachers of Maryland and nearby states, in the following ways.

1. During the academic year 1940-41 the College of Education conducted a survey of secondary education in Prince George's County in cooperation with the office of the county superintendent of schools and representatives of the Maryland State Department of Education. The work of the staff under the chairmanship of Professor Arnold E. Joyal deserves special commendation. The survey report represents a distinguished contribution of practical scholarship to the needs of the county.

2. The faculty also undertook as a group an evaluation of the Powell Junior High School in Washington, D. C., during the spring of 1941. The report of this evaluation was completed in the summer of 1941.

3. Individual members of the faculty have taken part in evaluations of the following Maryland high schools: Hampstead High School, Fort Hill High School in Cumberland, Baltimore City College; and the Central High School in the District of Columbia.

4. Members of the Education faculty gave a total of about one hundred talks to teachers and to civic groups in the state of Maryland during the biennium.

5. The services of the faculty on national groups is illustrated by the fact that during the national education meetings in Philadelphia and Atlantic City in February, 1941, the members of the College of Education faculty appeared a total of fifteen times on the main programs of such organizations as the American Association of School Administrators, the Progressive Education Association, the National Society for the Study of Education, and the National Council of Education. At various other times during the year members of the staff have appeared on national programs of such organizations as the National Education Association, the American Association for Adult Education, and the National Society for Curriculum Study.

6. The publications of the staff during the last two years include a total of about thirty important books and articles in the field of education. One member of the staff was school finance editor of the new *Dictionary of Educational Terms;* another served on the editorial board of *Building America,* a photographic magazine of modern problems designed for classroom use and published by the Society for Curriculum Study; a third member was editor of an education textbook series which published twelve volumes during the biennium; another faculty member served as assistant editor of the bulletin of the Department of Adult Education of the National Education Association; and two members of the staff served on the editorial board of *The Frontiers of Democracy,* a monthly magazine published by the Progressive Education Association. One of them was book review editor of the same journal. A member of the faculty served as education editor of the *Handbook of Latin-American Studies.*

7. Among the special education appointments of members of the staff were the following:

a. Special consultant of Educational Policies Commission. Study of democratic procedures and practices in secondary schools in the United States, 1939-40.

b. Acting Senior Specialist in school facilities, United States Office of Education, to study the need for funds under the Lanham Act, 1941.

c. Member of the Commission on Resources in Education, both years of the biennium.

d. Member of the Commission on Teacher Education, both years of the biennium.

e. Consultant on evaluation to the Tennessee Valley Authority, 1940-41.

f. Member of yearbook committee, North Central Association, both years of the biennium.

g. Member of yearbook committee, National Society of College Teachers of Education, both years of the biennium.

h. Two members of year book committee, John Dewey Society, 1941.

i. Temporary service as Director of N. Y. A. for the State of Maryland, 1941.

j. Member of educational mission to South America, Carnegie Endowment for International Peace, 1941.

In June, 1940, the College of Education lost the services by retirement of Willard S. Small, dean of the college from 1922 to 1939, and advisory dean, 1939-40. Various expressions of regard for Dean Small and of gratitude for his long and effective service to the college and to the cause of education were made by students, faculty members, and school authorities of Maryland and the District of Columbia. His successor wishes here to record formally the indebtedness of the college to Dr. Small.

Summer Session

HAROLD BENJAMIN, *Director*

IN the summer sessions of 1940 and 1941 the enrollment was distributed as follows:

	1940	*1941*
Undergraduates	1099	941
Graduates	354	303
Total	1453	1244

Among the special features of the summer program during the biennium were the School Administrators' Conference, July 7-11, 1941, attended by

approximately two hundred principals, supervisors, and superintendents from Maryland, the District of Columbia, and neighboring states. Visiting speakers included Dr. William G. Carr, Secretary of the Educational Policies Commission; Dr. Sidney B. Hall, State Superintendent of Schools, Virginia; and Dr. Frederick B. Knight, Director of the Division of Education, Purdue University.

The State Parent-Teacher Association conference and the C. C. C. Educational Advisers' conference have been held on the campus during each of the summers of this biennium.

In general the program of graduate and undergraduate work in the university has made a special effort to keep school teachers and administrators informed concerning current national and international developments. The course in political science taught by Dr. R. G. Steinmeyer, The World Today, has continued to give students an opportunity to hear specialists in various fields present critical interpretations of international developments. A field seminar on services of the Federal Government and a seminar in education and defense were also special features in this general area.

It is a generally held opinion among faculty members as well as among students that the quality of work done in summer session is steadily improving.

The decrease in summer session enrollment in 1941 may be followed by an even greater decrease in 1942 if the present international situation does not improve markedly. It will probably be necessary for the University to offer a somewhat less extensive program in the summer of 1942 but every effort will be made to improve the program even though it has to be reduced.

College of Engineering

S. S. STEINBERG, *Dean*

THE more important developments in the College of Engineering during the past biennium were the continued record enrollment, the increase in teaching and laboratory facilities, the extension of the services rendered by the several departments, and the occupancy by the College of Engineering of its new building, which formerly housed the College of Arts and Sciences. The new building provides better quarters and facilities for the drafting rooms, classrooms, small laboratories, and offices. The larger laboratories are being retained in the building formerly occupied by the College of Engineering until such time as a laboratory addition is built adjoining the new building.

Since the last biennial report, wherein announcement was made of the accrediting of our Departments of Civil, Electrical, and Mechanical En-

gineering by the Engineers' Council for Professional Development, another Committee from that Council visited the University, and, as a result of their inspection, removed the time limitation from our accrediting.

It has been gratifying to observe that the demand for our engineering graduates has in recent years far exceeded the supply. Each year the senior classes are interviewed by representatives of outstanding engineering and industrial organizations and those selected are assured positions several months before graduation.

CIVIL ENGINEERING DEPARTMENT

During the biennium, one instructor was added to this department, John A. McLaughlin, Jr. Mr. McLaughlin received the degree of C. E. from Cornell University in 1933. He had been engaged in practical engineering work since graduation, serving as Assistant Civil Engineer on highway work up Syracuse, N. Y., Inspector of Construction with the Erie Railroad Company, and Assistant Civil Engineer with James Mahoney, Inc., on layout of structures for the New York World's Fair, 1939.

As a result of a cooperative arrangement between the College of Engineering and the U. S. Geological Survey, the district offices of the Water Resources Branch of that Survey, covering the Middle Atlantic States, have been located in the Engineering Building. Location of these offices on the campus is of material benefit to the University and the Geological Survey, because field and office work can be carried on more economically and a more active and widespread interest in the cooperative investigations of the State's important water resources can be promoted.

The office of the new State Bureau of Control Surveys and Maps of the Department of Public Works, created by the General Assembly of Maryland in 1939, has also been located in the Engineering Building. The purpose of the Bureau is to serve as a central agency for the collection and coordination of all maps of Maryland and for the development of the Plane Coordinate System of the State, for which provision was also made by Act of the same General Assembly.

ELECTRICAL ENGINEERING DEPARTMENT

Several changes were made in the courses in this department in order to strengthen the curriculum and to meet more fully with the suggestions of the Engineers' Council for Professional Development.

The smaller electrical engineering laboratories, such as those in Illumination, Electrical Measurements, and Electrical Communications, were transferred from the old to the new Engineering Building. This afforded an opportunity to install the equipment to better advantage in the new space.

During the biennium, additions were made to the equipment in the department, and particularly in Electrical Communications. Attention was

also given to the development of the work of the amateur short wave radio station operated by the students in conjunction with their Radio Society.

MECHANICAL ENGINEERING DEPARTMENT

Two instructors were appointed in this department during the biennium. Aaron W. Sherwood was appointed instructor in Mechanical Engineering to succeed Eric J. Lindahl, resigned. Mr. Sherwood received the degree of M. E. from Rensselaer Polytechnic Institute in 1935. He had been engaged in practical engineering work since graduation, serving as Experimental Engineer with Wallace and Tiernan Co., Design Engineer for Associated Engineering, Inc., and teacher of machine shop for Associated Engineering, Inc., and teacher of machine shop and mechanical drawing for the Newark, N. J. Board of Education.

Leon W. Frayer was appointed Instructor in Mechanical Engineering. Mr. Frayer received the degree of B.M.E. from Syracuse University in 1937. For one year he served as Assistant in Engineering Drawing and Machine Design at Syracuse University, and for one year as Assistant to the Superintendent of the Norwich Wire Works on general drafting, shop layouts, and cost accounting.

Commencing with the academic year 1939-40, an aeronautical engineering option was introduced into the mechanical engineering curriculum beginning in the junior year. Equipment was ordered for the new Aeronautical Laboratory, which includes a wind tunnel and machinery for the fabrication and testing of all-metal airplanes.

The work in Aeronautical Engineering is in charge of Dr. J. E. Younger, Chairman of the Department of Mechanical Engineering, who, in 1938, received a citation in the award of the Collier Trophy to the U. S. Army Air Corps, in recognition of his research in the development of high altitude pressure cabins for airplanes. Dr. Younger was also appointed a member of the Advisory Board of the Institute of the Aeronautical Sciences.

During the biennium the new equipment in this department, previously purchased, was installed. This included a steam engine, a compressor, surface condenser, Diesel engine, turbine, and considerable minor equipment.

In the fall of 1939 we commenced the Civilian Pilot Training program in cooperation with the Civil Aeronautics Administration. The initial quota was 50 students. In the summer of 1940, advanced flight training was also offered. As a result of this training, 128 students in the primary and secondary courses were awarded their pilot's license by the Civil Aeronautics Administration.

CHEMICAL ENGINEERING DEPARTMENT

During this biennium the Department of Chemical Engineering passed its novitiate and emerged as a regularly qualified member of the University.

The catalogues for 1939-1940 carried for the first time in the University's history a completely organized curriculum in Chemical Engineering, including graduate courses. Developments in the biennium have included the addition of important equipment in the chemical engineering process and control laboratories; the initiation of research in cooperation with the U. S. Bureau of Mines with the aid of three fellowships supported by that Bureau; the maintenance of a nationally advertised series of lectures on engineering subjects given by outstanding authorities in the Bureau of Mines under the auspices of the University. Important activities previously initiated included the continuation of industrial research supported by a petroleum corporation located in the state; the maintenance of graduate courses and research studies leading to the Master's and Doctor's degrees; and the participation of the instructional staff in the research and technological work of the U. S. Bureau of Mines and national professional societies.

ENGINEERING EXPERIMENT STATION

The Engineering Experiment Station has continued its cooperative researches with state and government departments, as well as with industry. Following are some of the new projects undertaken during the biennium:

Project: Study of the Adhesion of Bitumens to Mineral Aggregates.
Cooperation: National Sand and Gravel Association.
Investigator: Dean S. S. Steinberg, in charge.
Project: Tests on Vibration of Concrete.
Cooperation: National Sand and Gravel Association.
Investigator: Dean S. S. Steinberg, in charge.
Project: The Development of an Electrical Wave-Shape Recorder.
Cooperation: Beach Erosion Board, U. S. Army Engineers.
Investigator: J. V. Hall, Jr., Beach Erosion Board, and Dr. W. A. Laning.
Project: Head Losses Across Multiple Bends in Air Ducts.
Investigator: Professor W. P. Green, in charge.
Project: A Study of Streamlined Steel Tubes under Various Loading Conditions.
Cooperation: Summerill Tubing Co.
Investigator: Dr. J. E. Younger, in charge.
Project: A Study of High Speed Wings for Airplanes.
Cooperation: National Advisory Committee for Aeronautics.
Investigator: Dr. J. E. Younger, in charge.

Additional information on research projects is contained in the report of the Chemical Engineering Department.

FIRE SERVICE EXTENSION DEPARTMENT

This department has expanded its activities in many directions during the biennium. The original basic training course for volunteer firemen was revised so that it now extends to almost twice the number of class hours it did previously. In addition, an advanced training course has been added. The tenth annual Firemen's Short Course was held at the University and

had the largest attendance and widest representation of fire companies in the history of the Maryland training program. The attendance totaled 186, representing 66 companies. Representatives were also present from five states. The advanced training course was completed by 222 firemen representing 60 fire companies.

As a result of a request from those in attendance at the previous short course, the eleventh annual short course was held for four days in September, 1940, instead of the customary three.

The Department cooperated with the State Fire Marshal and the State Firemen's Association in the development of a better fire prevention and arson investigation program for the State. The specific contributions by this Department to that program were as follows:

1—A two-day short course was conducted at the University for prospective deputy fire marshals. Thirty-two attended this course. A similar course was held for the Eastern Shore region at Easton and still another in conjunction with the tenth annual Firemen's Short Course at College Park. As a result of these short courses, about 25 deputy fire marshals were appointed, and are now functioning successfully throughout the State.

2—The Department compiled a complete set of State regulations covering the following items, over which there was previously no control by the State: The Manufacture, Storage, Sale, Handling and Use of Explosives; The Construction, Operation and Protection of Dry Cleaning Plants; The Installation and Construction of Fire Escapes and Exits; The Storage, Handling and Sale of Gasoline and Other Volatile Liquids; and Miscellaneous Regulations for the Safety of Life and Property. These regulations were approved by the office of the Attorney General, and will be published and made effective by the Fire Marshal's Department.

MINING EXTENSION CLASSES AND SHORT COURSES

The College of Engineering continued its cooperation with the Maryland Bureau of Mines, the State Departments of Education and the County Board of Education of Allegany and Garrett Counties, in conducting the night mining classes in the western part of the State. Classes were held at Vindex, Crellin, Kitzmiller, Friendsville, Kempton and Deer Park. The enrollment during 1938-39 was 139, and during 1939-40 was 135. The subjects studied were coal mine gases, coal mine ventilation, and map reading.

In cooperation with the Maryland State Roads Commission, the third and fourth annual highway engineering short courses were offered in 1939 aand 1940, respectively. These courses are planned especially for the engineers and inspectors of the Commission to give them an opportunity to discuss highway engineering developments during the previous year. These courses afford an opportunity for conference and coordination of construc-

tion and maintenance procedures as carried on throughout the State. The attendance has continued to increase each year, there being 121 enrolled in 1939 and 147 in 1940.

The third and fourth annual short courses for Operators of Water and Sewage Treatment Plants were held in 1938 and 1940. These courses are offered in cooperation with the Maryland-Delaware Water and Sewerage Association, the Maryland State Department of Health, and the American Water Works Association. These courses serve a very useful purpose in acquainting the operators of water and sewerage treatment plants with the latest developments in these important fields.

The second and third annual Traffic Officers' Training School was held in 1938 and 1939, respectively. These courses were offered in cooperation with the American Automobile Association, the automobile clubs of Maryland, and other interested organizations. At each of these courses traffic officers were in attendance from the Maryland State Police Department, the Police Department of the City of Baltimore, other cities in Maryland, and some counties. Traffic Officers also attended from the District of Columbia, Virginia, Delaware, and Pennsylvania.

The Graduate School

C. O. APPLEMAN, *Dean*

THE purpose of this report is to point out the lines along which progress has been made during the biennium. The functions and objectives of the Graduate School have been given in some detail in previous reports.

In September, 1940, the Graduate School issued the first volume of a series of university publications which will contain abstracts of theses offered at the University of Maryland for the doctor's degree and titles of the theses offered for the master's degree. This first volume contained thirty-four abstracts and one hundred thirty-two titles of theses for degrees conferred in the academic years 1938-1939 and 1939-1940, and it comprises a fairly complete record of the student research work directed and supervised by members of the graduate faculty for the period of the biennium. This volume was distributed gratis to a large number of colleges, university and public libraries, and to other agencies and individuals interested in graduate instruction and research. The research work that is represented in many of the bound theses deposited in the library of the university during the biennium is of direct importance to the varied needs of the state.

One of the chief functions of the Graduate School is to train men for research and productive scholarship. In addition to this highly important objective, more and more emphasis is being placed upon the professional training for jobs where highly specialized training is now required.

In order better to meet the professional needs of certain classes of public school teachers and administrators, the College of Education set up a graduate program leading to the new degree of Master of Education. This degree was officially approved and a number of students are now candidates for that degree. New additions to the graduate faculty in Education made it possible to expand the graduate work in this field to include programs leading to the degree of Doctor of Philosophy with major work in the field of Education.

Graduate programs leading to advanced degrees were offered for the first time in Chemical Engineering, Business Administration, and Poultry Husbandry. One subject after another has been added to the list of graduate fields as the resources of the University have permitted, until thirty-two departments of study now converge in the Graduate School.

The splendid cooperation of the Experiment Station with the Graduate School in respect to graduate theses and in the training of specialists for experiment station work has continued, with profit to both. The coordination of the Graduate School with the professional schools in Baltimore has been further perfected.

The number of courses suitable for graduate students only, identified as the 200 courses, has shown an encouraging increase during the biennium, but our graduate instruction in some subjects is still not sufficiently segregated from undergraduate instruction. More of such courses for graduate students only are needed to improve the graduate instruction in some fields.

The standards of our graduate work have been greatly improved in several departments because of greater laboratory facilities, more room, and increased physical equipment.

The chief emphasis in the Graduate School has continued to be on quality rather than on quantity of candidates for higher degrees. Only highly conpetent students are admitted to candidacy for higher degrees.

The enrollment of graduate students, and the number of advanced degrees conferred for each year of the biennium, are shown in the following table:

	1938–1939	*1939–1940*
Enrollment, regular academic year	447	459
Enrollment, summer	294	347
	741	806
Less duplicates	65	82
Total net enrollment for year	676	724
Master of Science and Master of Arts degrees	63	69
Doctor of Philosophy degree	16	18
Total number of degrees	79	87

College of Home Economics

MARIE MOUNT, *Dean*

IN February, 1940, the College of Home Economics moved into its new home, a red brick building, of the colonial architecture traditional to the campus. In planning this building, it was kept in mind that home making was to be taught here, and the best possible combination of a home and laboratory building was achieved. The building is airy and light—the walls and woodwork are done in attractive light colors and the floors are covered with linoleum tile which blends in color with the walls and furnishings.

There are two Art Laboratories, one equipped with individual desks of modern design and with adjustable tops—the other with drafting desks and high stools. The laboratory where clothing construction is taught has cutting tables with adjustable tops to accommodate students of different heights. The walls of these three studios are of painted cork board, designed for exhibits of student work.

Of the three Foods Laboratories, two are arranged on the kitchen unit plan, the third has electric kitchen equipment on one side and gas equipment on the other—with chairs, and with large tables on wheels in the center—so arranged to permit the teaching of demonstrations. Throughout these laboratories different makes of stoves, refrigerators, and small equipment and the several types of working surfaces have been used to give students a varied experience.

Two rooms much used by all the home economics students are the library and the Maryland Room. The latter, a large pine-panelled room furnished as a living room, is used for special lectures, meetings and social gatherings. An adjoining kitchenette has facilities for serving simple refreshments.

The library, accommodating thirty persons, is used for reference reading and study. It houses those books purchased by the College of Home Economics, current periodicals pertaining to the home, and a mass of bulletins and illustrative material issued by private, state, and government agencies.

An unusual feature of the home economics building is the five built-in display windows. These are kept dressed by the class in Merchandise Display, a course added to the Practical Art courses in 1940. The department stores in Baltimore and the District of Columbia cooperate in furnishing merchandise for student use in decorating these windows.

The enrollment of the College of Home Economics has increased from 215 for 1938-39 to 306 for 1940-41, in increase of 42.3%.

The home economics courses are continually under-going changes and adjustment and a few new courses have been added. Two new positions have been created—one in Practical Art and one in Clothing.

For the Summer School there has been an increased demand for courses of graduate status for home economics teachers; and since many of these

eachers wish to come for a half session only, the home economics summer courses have been planned in two units of three weeks each.

Since 1930 the College of Home Economics has sponsored an annual Mothers' Day for home economics students. In 1940 this was changed to Parents' Day, when 250 mothers, fathers and other relatives came to the University for a program of student exhibit and demonstrations and a luncheon.

A home economics loan fund was started in 1940 with a contribution of $25.00 from the District of Columbia Home Economics Association. The growth of this fund will insure help to deserving students.

The present emergency has brought new demands upon our homes and families. More emphasis is being placed upon nutrition and health and there will be a program of conservation including the use of substitutes in both foods and textiles. Many of our other consuming habits will be modified. The necessary revisions in courses to prepare home economics students to meet these changes were begun in 1940 and will continue.

In the summer of 1940 the Federal Government requested the land grant institutions to initiate state-wide nutrition programs. The Dean of the College of Home Economics was made chairman of a committee on nutrition for Maryland. After various committee meetings and a nutrition conference open to the public, this committee is preparing a nutrition program for the State of Maryland.

School of Medicine and University Hospital

ROB'T U. PATTERSON, *Dean and Superintendent*

THE developments in the Medical School and in the University Hospital during the past two academic years have all been influenced, and in some instances, determined by the effect of the war. The number of students has remained approximately the same, i.e., an average of 370 in the Medical School. The large majority of the students were prepared in the University of Maryland at College Park, but there have been representatives from 30 States and several foreign countries. The operation of the Selective Service has not resulted in any depletion in the number of students because of special arrangements whereby medical students are deferred from service to take a medical education in the interest of the National welfare, duly recognized by the Selective Service. All able-bodied male students apply for and accept commissions in the Army or Navy, and will not be called upon by those services for active duty until after graduation followed by one year internship in an approved hospital.

Graduates of the School have continued to obtain internships in excellent hospitals throughout the country. The record of graduates of our Medical

School before State Examining Boards for licenses to practice has been most gratifying, and the percentage of failure is much below the average for other schools of the country. The Admissions Committee, by a careful and just evaluation of the qualifications of applicants, has been able to select well-qualified students who show evidence that they will be able to profit by a medical education. At the end of the biennial period, there were 45 Professors, 267 Associates and Assistant Professors on the rolls of the Faculty, or a total of 312. The Faculty lost seven of its membership by death during the biennium.

One hundred and thirty-five members of the Faculty are now in the military or naval services on active duty. Lists of "essential" members of the Faculty and the staff of the hospital are furnished every six months to the Procurement and Assignment Service with Headquarters in the Manpower Commission in Washington. The Chairman under this service for the Third Service Command, U. S. Army, and the State Procurement and Assignment Officer, are both members of the Faculty of this school. The Chieftanship of the Emergency Medical Service of the State of Maryland and Baltimore City is occupied by a member of this Faculty.

In common with other schools, our school schedule is now upon an accelerated basis *for the duration* necessitating entrance to the School and graduation at different dates than formerly.

Two General Hospitals (respectively No. 42 and No. 142, U. S. Army) have been organized from the Faculty of the Medical School, and are now in active service in the war zone in the Southwestern Pacific.

Fellowships and Grants have been made to provide opportunities to physicians and students desiring to prosecute researches in Anatomy, Histology and Embryology, Gynecology, Neuro-Surgery, Physiology and Surgery to a total value of $18,200. The Medical Alumni Association donated $1,200 to the School of Medicine for four years' free schooling at $300 per year. The Graduating Class of 1940 donated $126 and the Class of 1941 gave $150 for scholarship aid.

The opening of the Bressler Research Laboratory Building in May, 1940, was the greatest event of the biennium. This building provides for the proper housing of the Departments of Anatomy, Histology and Embryology, Pharmacology, Physiology and Clinical Pathology, and facilities for teaching and the prosecution of scientific research. Quarters for animals needed for scientific purposes and in the teaching of operative surgery, also a lecture hall and a memorial hall, are included in the building.

The Dispensary or Outpatient Department has been fully utilized by the public. More than 101,000 cases were treated during the last year.

Gifts and bequests to support scholarships and Fellowships and for specific research projects to a value of approximately $45,000 were made during he biennium. While not available for the support of the institution, they

are of the greatest value in fostering scientific work, and in helping to maintain high standards in the medical educational world.

The Obstetrical Service of the University Hospital has been greatly taxed and the demand for obstetrical beds is steadily increasing. There is a need for more maternity beds in the hospital. The demand upon the "home delivery" service has become greater than in previous years. The need for more obstetrical beds in hospitals is the most pressing question for all hospitals in Baltimore at the present time.

In connection with the Medical School, on account of the limited appropriations for its support granted by the State, the School has been obliged to supplement the State appropriation by every legitimate means. The result has been that tuition fees are higher than in other State university medical schools, and are on a level with the most expensive private institutions. Often well-trained students are excluded from the School because they are unable to meet the high tuition fees. It is hoped that the Legislature will be convinced that they should provide more adequate support for the Medical School so that tuition fees may be reduced to reasonable proportions, and the salaries of full time and part time teachers be raised to a level which will enable the School to compete more successfully for teachers with other schools from time to time.

Like the Medical School, the Hospital also is inadequately supported by the Legislature. The hospital has to depend upon fees from private and semi-private patients, and from other sources to raise more than 83 per cent of its estimated budget annually. The percentage of the budget which the State furnishes is much below what is customary in other State university hospitals of the country. It is important that appropriations be gradually increased by the Legislature until at least 40 per cent of the estimated budget will come from that source. With a more secure and dependable financial background, both the Medical School and the University Hospital will be able to continue to maintain progress, and enhance the excellent reputation these institutions now have in the medical world.

School of Nursing

ANNIE CRIGHTON, *R. N. Director*

IN giving a report of the outstanding developments in the School of Nursing for the two years ending September 30, 1940, it is rather difficult not to confuse these two years with the trends of rapid events of the past year.

In the past, nursing was commonly thought of as being made up mainly of manual skills to help restore the patient to health or to make him more comfortable. Today this is recognized as a limited conception of nursing.

"Nursing may be defined as that service to the individual that helps him to attain or maintain a healthy state of mind and body; or where a return to health is not possible, the relief of pain and discomfort." Obviously this imposes a greater responsibility on nurses and in turn necessitates a knowledge and understanding of the physical and biological sciences, the social sciences, the medical sciences and the nursing arts, including in the last named group the necessity for the acquisition of skill and adeptness in handling patients.

Accepting this interpretation of nursing a number of changes in the curriculum have been made.

In the Biological and Physical sciences the following improvements have been made possible: (1) the addition of 15 hours permitting the inclusion of some laboratory work to the course in physiology, (2) the addition of laboratory work and demonstrations to the course in Chemistry.

In the Social Sciences Child Psychology has been added to run concurrently with the lectures in Pediatrics. The nurses now have a course in Psychology given by a member of the Mental Hygiene Clinic and a course in Child Psychology. Although the nurses are engaged in a field of work in which the social and economic factors are vitally important, where she needs to know and understand something of the family life in its community relationship, we are still unable to offer her Sociology which gives this insight and understanding.

In the Medical Sciences additional nursing classes have been added to Materia Medica to help give the student more knowledge of the drugs and their effects on the patients. There is great need for Materia Medica to be taught during the early summer.

Even though much stress is placed on community nursing and the public health viewpoint, we are still unable to give all students experience in this field because there is no provision made for experience and instruction although ample clinical material is available.

Clinical subjects are now given twice each year bringing about a better adjustment of theoretical and practical experience for the two divisions of each class.

A more adequate diet laboratory has been provided which should make for an improvement in this department.

The library is still a problem. It does not have the books necessary nor facilities conducive to study and reading. This coupled with the fact that the majority of students do not have single rooms makes it difficult for study.

An attempt has been made to make ward teaching more effective but the same difficulties are still present, namely: (1) the lack of time for supervisors to plan and work out a suitable program, (2) pressure of ward duties,

(3) lack of time for study and reading, (4) physical fatigue. If students are to receive the guidance necessary for giving good nursing care based on the knowledge of the biological and physical sciences, social sciences, and are to acquire the skill and adeptness which should be expected, if they are to plan programs of nursing care to meet the individual patient's needs and to give the individual instructions indicated, then proper and adequate supervision should be available.

Because we have so few people and because their duties are so onerous it is almost impossible to train supervisors in planning educational programs to meet the needs of the student nurses and to provide proper rotation of students to receive necessary instruction and experience.

There has been a marked improvement in the preparation of applicants, a greater number having at least two years or more of college which increases the challenge for well qualified supervisors and instructors.

While there was an addition of two floors to the present nurses' residence housing is still a problem as well as the teaching and recreational facilities.

The School of Law

ROGER HOWELL, LL.B., PH.D., *Dean*

BY the very nature of the Law School's work, a report of either present operations or future objectives must be stated in somewhat general term rather than in terms of specific projects accomplished or in view. Its principal task during the past biennium necessarily has been, and will continue to be in the future, to furnish the citizens of Maryland with a school where they may obtain adequate and sound legal education, judged by prevailing standards, on a par with that obtainable in the better law school elsewhere in the country; incidental to this, as a secondary task, is the fostering of research activities beneficial to the legal profession, particularly in Maryland. Within the limits of its resources, these tasks, it is believed, have been adequately performed during the past two years.

CURRICULUM

In the last report, mention was made of the difficulty faced by the School in adjusting its curriculum, within the confines of the traditional three year law course, to the rapid growth of law in an increasingly complex economic society with the consequent development of many new fields of law in which the practising attorney today must be trained. Increased emphasis has accordingly been given to instruction in the field of Public Law, particularly in the courses in Administrative Law and Taxation. Limited financial resources, however, have not permitted as much expansion of the curriculum as is thought desirable in this respect, if the School is to keep pace with present day trends in legal education. To offer intruction in

such presently important courses as Trade Regulation, Labor Law, and other similar fields in which modern development has been particularly marked, will necessitate the addition of at least one full time instructor to the present faculty.

STUDENT BODY

There has been a slight decrease in enrollment during each of the past two years. This, however, is in line with, although less marked than, the trend nationally, since during the past decade the total law school enrollment in the country has decreased about one-third. The Selective Service Act will, however, undoubtedly cause an unpredictable but probably severe loss in enrollment in the immediate future. Since the Law School has been dependent in the past upon income from student fees to a somewhat unfortunate extent, this will necessitate substantial increases in the State appropriations to enable the School to function while maintaining proper standards.

LEGAL AID CLINIC

Mention has been made of this part of the Law School curriculum in prior reports. However, it has now passed out of the experimental stage and has become one of the most valuable and worthwhile parts of the law school training, bridging as it does the gap between the theory of the classroom and the actualities of practice. During the past year, the Baltimore Legal Aid Bureau, in connection with which the Clinic is operated, has supplemented it by instituting what amounts to a legal interneship through the selection of two men from the clinic students to serve as full time associate counsel for a year after graduation; if successful, it is hoped to make this a regular practice.

FACULTY RESEARCH

Research activities of law school faculties normally take the form of publication of books and contributions to the legal journals. Both full-time and part-time faculty members have participated in such activities during the past year. Of particular value to the Maryland bar have been the Maryland annotations to the American Law Institute Restatement of Trusts, published by Professor Reiblich. Similar annotations for the Restatement of Property are being prepared by Professor Reno.

The Law School has continued the publication of the Maryland Law Review, now completing its fifth year. The recognition of its value to the legal profession in this State has been very practically evidenced by the continuation of the group subscriptions of the Maryland State, Baltimore City and Junior Bar Associations. In constitutes also a particularly valuable source of training in legal writing for the students on the editorial board.

The following publications by members of the Law School faculty have appeared during the past biennium:

BRIDGEWATER M. ARNOLD:
Review of Wait on Sales, in 3 Md. L. R. 283.

HUNTINGTON CAIRNS:

The Theory of Legal Science, pp. 176.

EDWIN T. DICKERSON:

Review of Ashman, Directed Verdicts and Instructions, in 4 Md. L. R. 327.

ELI FRANK:

Review of Wilkin, The Spirit of the Legal Profession, in 3 Md. L. R. 105.

ROGER HOWELL:

Review of Rottschaefer, Handbook of American Constitutional Law, in 3 Md. L. R. 374.

FREDERICK W. INVERNIZZI:

Review of Williston, Life and Law, in 5 Md. L. R. 341.

EMORY H. NILES:

Comtempt of Court by Publication, in 45 Trans. Md. State Bar Assoc. 101.

Review of Robinson, Handbook of Admiralty Law in the United States, 4 Md. L. R. 104.

G. KENNETH REIBLICH:

Maryland Annotations to the American Law Institute Restatement of the Law of Trusts, pp. 267.

Instructions with Respect to the Powers and Duties of the Police, and Digest of Laws (sixth ed.) pp. 543.

The Conflict of Laws Philosophy of Mr. Justice Holmes, in 28 Georgetown, L. J. 1.

Review of Loring, a Trustee's Handbook, Shattuck edition, in 5 Md. L. R. 225.

Review of Land, Trusts in the Conflict of Laws, in 5 Md. L. R. 228.

RUSSELL R. RENO:

The Doctrine of Worthier Title as Applied in Maryland, in 3 Md. L. R. 450.

Review of Fryer, Readings on Personal Property, in 3 Md. L. R. 199.

JOHN S. STRAHORN, JR.:

Maryland Casebook on Domestic Relations (2nd ed.), pp. 425.

The Policy or Function of the Law of Bills and Notes, in 87 Pa. L. R. 662, 793.

Preparation for Crime as a Criminal Attempt, in 1 Wash. & Lee L. R. 1.

The Court of Appeals of Maryland—a Five Year Study (with Herbert M. Brune, Jr.), in 4 Md. L. R. 343.

Review of Brown, Lawyers and the Promotion of Justice, in 3 Md. L. R. 285.

Review of Orfield, Criminal Appeals in America, in 4 Md. L. R. 214.

Review of Madden and Compton, Cases and Materials on Domestic Relations, in 35 Ill. L. R. 997.

Review of Michael and Wechsler, Criminal Law and Its Administration, and of Hall and Glueck, Cases and Materials on Criminal Law, both in 54 Harv. L. R. 1414.

R. Dorsey Watkins:
Maryland Mortgages for Future Advances, in 4 Md. L. R. 111.

Both full-time and part-time faculty members have also continued to participate actively in Bar Association and Law School Association Committee work.

As is indicated by this Report, the past biennium has been one of steady continuation of existing policies in the Law School rather than an attempt to produce spectacular or novel developments and experiments. It is believed that this is most consistent with sound legal education and scholarship. The curriculum and teaching methods conform closely to the pattern accepted in all recognized schools. Our only principal difference from the practices of other standard American schools is in our adherence to the policy of maintaining a considerable number of part-time instructors selected from members of the local bench and bar; in this connection, it is interesting to note that in the last report of the Dean of one of the principal large eastern law schools, emphasis was laid upon the desirability of maintaining the practical experience and viewpoint of active practitioners on the law school faculties. An indication of the sound quality of the instruction now offered at the school may be found in the fact that, of the 1940 graduates, one was awarded a Sterling Fellowship for graduate work at the Yale University Law School; another a fellowship in the Harvard Graduate School of Business Administration; and a third was appointed to the full-time faculty at another Association law school.

The School of Dentistry

J. BEN ROBINSON, *Dean*

THE Dental School has attempted to establish and to maintain an acceptable undergraduate course of instruction. For the past ten years it has directed its efforts towards improving the undergraduate curriculum and establishing high standards in teaching. The particular object is to prepare the dental graduate to meet the exacting demands of a competent oral health service, to equip him to satisfy fully the requirements fixed by the national accrediting agency, and to qualify him for examination by a few State Boards of Dental Examiners which have established maximum requirements for admission to practice in their respective states.

The program in the Dental School has not included the popular short postgraduate courses and has not provided opportunity for graduate work in the specialities; while research has been promoted by individuals more on a basis of personal venture than on a basis of a University project. Reasons for the lack of formal participation in these important activities are to be found in the limited physical facilities which prevail and in the present minimum staff of teachers, who are obligated to carry a maximum teaching load.

The immediate needs of the Dental School are additional physical facilities to provide for better instruction and an augmented teaching staff to administer it. Additional physical facilities must be provided to take care of the expansion of the undergraduate curriculum, to provide for short postgraduate instruction, to establish acceptable graduate courses, and to stimulate research activities.

The Dental and Pharmacy building was occupied in 1929 under the severest limits of space. Room for clinical teaching was allocated without a margin that would allow for expansion; classrooms, laboratories, and clinics were planned for the accommodation of students, with no rooms reserved for teachers or for research activities. For instance, the Schools of Dentistry and Pharmacy, in planning their combined Library, did so on a basis of immediate needs. Today the Library has grown five-fold, both in available library resources and in use by teachers and students. A reading room barely adequate for either Dentistry or Pharmacy now accommodates both, and reserves of literature which should be readily available are stored away in a sub-basement.

The preclinical biological subjects are now inadequately taught because of the overcrowding of laboratories, or because of the lack of laboratories. The Dental School has the use of only two science laboratories for teaching the biological sciences in the preclinical years of the curriculum. One laboratory in the Dental and Pharmacy building, 22 x 53, must accommodate all the teaching done in histology, embryology, pathology, and bacteriology for both dentistry and pharmacy students. Accessory to it are one teachers' room and one combined preparation and stock room. Three full-time teachers and four part-time teachers are assigned to this space. The second laboratory, 25 x 90, is a converted ward in the old hospital building, in which instruction in general anatomy is conducted. While the space itself is adequate, the surroundings and the conveniences are not suitable. No laboratory teaching is offered in connection with courses in physiology and pharmacology because no space is available. The inadequacy of physical facilities for acceptable teaching in the preclinical sciences may be illustrated by contrasting the facilities provided in the Gray Laboratory, the old Dental Building and the new Bressler building, all now used by the Medical School for parallel courses.

In 1937 the Faculty of the Dental School made a request for an appropriation to provide an additional 16,000 square feet of floor space in the clinic wing of the Dental School. This space was intended to allow for expansion of clinical facilities and, by relieving pressure in the present building, to benefit the Pharmacy School. The situation was surveyed, the size of the building planned and its cost estimated by a competent builder. The appropriation, which was based on the estimate of the builder, was secured. However, unpredictable developments which inflated the building cost resulted in a cutting down of space in the building to keep within the appropriation. The Dental School finally secured 7,212 square feet of usable floor space, of which one-fourth is unfinished and, of course, unavailable for

present use. The 1937 building program called for additional space to p vide preclinical science laboratories for Dentistry in the contemplated Bressler building. A curtailment of the plans for the Bressler building similar to the enforced reduction of space in the Dental building, excluded Dentistry from consideration.

In order to improve these conditions it is recommended that the unfinished Dental wing be completed. The architects have estimated the cost of this construction at $55,000; an additional $15,000 should be provided for equipment. If these improvements be made, space in the present building can be released for Library expansion for both Dentistry and Pharmacy.

In addition, three science laboratories, each of 2,250 square feet, should be provided. This space will be sufficient to include teachers' rooms, stock rooms, and other accessory rooms. I am not prepared to make definite recommendations as to how these may be secured. A separate building to provide these facilities would cost approximately $85,000. It would seem wise to consider their development in connection with the building program as a whole. I might suggest that, if additions are made to the Bressler Building or to the Gray Laboratory to provide fully for Medicine, then the old Dental Building might be released to Dentistry and Pharmacy for these purposes.

The Dental School recognized the serious problem involved in securing and retaining on its staff competent teachers, particularly those employed in teaching clinical subjects. The clinical teacher is ever confronted with the attractive opportunities of private practice, which is more remunerative than any teaching position. This competition between teaching and practice is always a source of danger to a professional school and, in a number of instances, has deprived us of splendid teachers. The answer to this threat is the payment of salaries that may seem, by comparison with salaries offered preclinical laboratory and classroom teaching, very high. Certain recommendations in this year's budget are designed to meet this situation.

For the past few years an attempt has been made to improve permanently and effectively the teaching in the Dental School by discontinuing, as far as possible, the employment of part-time teachers in ranking positions and by appointing full-time teachers with suitable training, experience and ability and by establishing teaching fellowships. This plan is more effective and more economical than the plan of using part-time teachers.

Full-time reachers in the Dental School have been scheduled too heavily to allow them to do their best work. Most full-time teachers are scheduled thirty-three hours per week for the regular term and about half that time for the three summer months the clinics are open. Teachers carrying such heavy burdens are not physically capable or mentally fit either to do the most effective teaching or to pursue research projects. There is need for decreasing the teaching load that present full-time teachers are carrying and to supplement the teaching staff with more full-time teachers. Five

full-time teachers of rank not higher than that of Assistant Professor should be added to the teaching staff.

Two years ago the Faculty Council planned a new department to be known as the Department of Visual Education. Neither space nor funds were available to put it in operation. If the annex to the clinic is completed, space will be made available and funds will be asked to put the department in operation.

The coordination of the medica-dental factors implied in both dental and medical education. While dental education has been indifferent toward the importance of a closer cooperation, medical education has looked upon dentistry as an unimportant factor in the health of the individual and of the community. As a consequence of these attitudes the benefits that would accrue from a closer relationship are denied. The School of Medicine, University of Maryland, has not been enthusiastic in promoting dentistry as a necessary element in its teaching program. Dental students need and should have proper medical instruction and it is equally true that medical students should be taught at least an appreciation of what dentistry has to offer. It is obvious that a better condition should exist than that which now obtains. This can be achieved by the two schools if they will coordinate teaching in the interests of both medical and dental students, without regard for personal interests or personal prejudices of teachers, either in the Medical or the Dental Schools.

Research in the Dental School, University of Maryland, has not been spectacular, but it has been sound and effective. It has been limited to the subjects of Bacteriology, Pathology, Pharmacology, and Dental History. The Dental School has a large number of men fully capable of doing research work of a high order. Interest in research is being promoted by requiring research experience of each new teacher of rank that is employed. We do not expect or want all teachers to do research, but we do expect them to understand research methods and to be keenly interested in the fruits of research.

To bring the teaching staff to a proper strength in quality and number, to maintain a much needed Department of Visual Education, to provide additional personnel and maintenance for acceptable biological laboratory teaching, to establish a more adeptable medico-dental relation in both surgery and medicine, and to maintain the efficiency of the expensive equipment in the dental clinics, require a greatly augmented annual state appropriation for the Dental School. A former report to President Byrd recommended that the present appropriation of $15,285 be increased to approximately $40,000 annually.

The School of Pharmacy

A. G. DuMEZ, *Dean*

DURING the biennium just ended, the School of Pharmacy has devoted particular attention to the matter of improving graduate study, which has included revision of the undergraduate curriculum to this end. Attention has also been given to the improvement of certain undergraduate instruction in which we have been weak, particularly bacteriology and physiology.

ENROLLMENT

The enrollment in the undergraduate course has gone down progressively over the last four years as shown in the tabulation below. However, there are indications that the bottom has been reached and that an increase in the size of the entering class may be expected from now on. From thirty-five to forty graduates are needed annually to replace the practicing pharmacists in the State who die, retire, or change their occupation. The number which we will graduate annually in the next three years will be about twenty to twenty-five, which is only half enough.

Class	*1936*	*1937*	*1938*	*1939*
1st Year	59	32	40	34
2nd Year	39	40	26	33
3rd Year	56	41	36	24
4th Year	62	47	41	34
Graduate	22	23	27	27
Special	8	1	4	8

CHANGES IN FACULTY

There have been no important changes in the faculty. The changes which were made occurred among the graduate student assistants and were in the nature of replacements, necessitated in the main by the fact that these students completed their graduate work and accepted positions elsewhere.

IMPROVEMENT OF WORK IN CERTAIN DEPARTMENTS

Since Dr. T. C. Grubb took charge of the work in bacteriology, special effort has been put forth to improve the courses of instruction given in this department and to adapt them to the needs of pharmacy students. This has been accomplished to as great an extent as possible under present conditions. The department needs animal room space and office space. It is expected that graduate work in this department will be initiated in the near future.

Up to the beginning of the biennium, laboratory work was not required in physiology. It was realized that the course to be of greatest value to students in pharmacy should comprehend a certain amount of laboratory work.

Provision was made in the second year of the biennium to give some experimental work of this kind in the laboratory now devoted to instruction in pharmacology and bioassaying. Here too, additional animal room space and laboratory space is needed.

GRADUATE WORK

The number of graduate students has increased from twenty-two in 1936 to twenty-seven in 1939-40. By far the greatest number of these students are doing their major work in pharmaceutical chemistry and pharmacology, although a number are specializing in pharmacy and related subjects. The demand for these students, who have completed work for the doctor's degree, is far beyond any number that we can supply. It, therefore, seems that we should continue to devote our attention to providing additional opportunities and facilities for carrying on advanced work of this type.

As evidence of the high esteem in which graduate work in our School is held, attention is called to the fact that the William R. Warner Company of New York provided two graduate fellowships, one of them a full-time post-doctorate fellowship. Additional evidence of this character is furnished by the favorable comments received on the published reports of the research work done in the School and by the numerous requests for our graduate students to fill positions in the fields of industry and teaching.

EXTRA CURRICULAR ACTIVITIES

The outstanding event in pharmaceutical circles during the biennium which this report covers, was the decennial convention of the United States Pharmacopoeia, held in Washington, D. C., in May, 1940. This convention, which meets once every ten years, is held for the purpose of electing the officers of the convention, the members of the committee who are to revise the Pharmacopoeia, and to formulate the principles which are to govern revision. Some idea of the part which the faculty and graduates of the School of Pharmacy played in this convention may be gained from the knowledge that two members of the faculty, Drs. DuMez and Chapman, were elected members of the Committee of Revision and that four of our graduates were also elected to important offices, Drs. Kelly, Swain and Dunning were elected members of the Board of Trustees of the convention and Dr. Krantz was elected to membership on the Revision Committee.

In addition to the foregoing, a number of our faculty members served as officers of national organizations. Dean DuMez served as president of the American Pharmaceutical Association for the year 1939-40. He is also Secretary of the American Council on Pharmaceutical Education and a member of the Executive Committee of the American Association of Colleges of Pharmacy. Dr. Hartung was elected a counsellor of the American Chemical Society and is still serving in that capacity. Professor Andrews served as chairman of the Section on Practical Pharmacy of the American

Pharmaceutical Association for the year 1940. Dr. Grubb was elected Vice-President of the Maryland Association of Public Health and Medical Laboratories and Treasurer of the Baltimore Branch of the Society of American Bacteriologists.

Assistant Professor M. J. Andrews of the Department of Pharmacy has continued propaganda work to encourage the use of official drugs and preparations by physicians. This work is being done under the joint auspices of the State Association, the Baltimore Retail Druggists Association and the School. The results as shown by a recent survey made by Professor Andrews are encouraging and it is believed that this work should be continued.

In the last year of the biennium, the School cooperated with the State Pharmaceutical Association in offering extension work to pharmacists. The speakers were supplied by the State Association during the first semester and by the School of Pharmacy during the second semester. A total of twelve lectures were given by the members of the staff of the School of Pharmacy—six different lectures but to two classes, one in the afternoon and one in the evening. These lectures were very poorly attended, only four or five pharmacists being present at some of them and at one lecture, there was nobody present. The attendance was most discouraging, and after talking the matter over with several members of the faculty, it was decided to discontinue the classes for a year and then to try again using some new method of approach. There seems to be a demand for extension work of some kind. At least, the matter is talked over at State Association meetings. How, when and what to give in the course to make it sufficiently attractive to insure a reasonable attendance are problems which should be settled, if possible, before again taking up the work.

The members of the staff of the departments of pharmacy and pharmacology have continued to furnish analytical service to pharmaceutical manufacturers who are not equipped to standardize their products, or who desire a check on the results obtained by their own analysts. It is believed that this service is worth continuing as it provides a contact with manufacturers which enables us to secure desirable positions for our graduates, particularly those with advanced degrees.

The School has continued to cooperate with the Maryland Board of Pharmacy in placing at the disposal of the Board its laboratory and class rooms for examination purposes and in conferring with members of the Board regarding the qualifications of the graduates.

The University Libraries

CARL W. HINTZ, *Librarian*

THE period under review has seen continued growth in size and strength of the book collection, increased use of the libraries, and a considerable expansion of physical facilities.

Although the general picture is encouraging in many respects we are in much the same situation as we were six years ago. The following table presents figures for the College Park division and shows that although total expenditures have increased, per capita expenditures have remained fairly constant, with the exception of 1937-38. In other words, we are at best keeping step with increased enrollment and faculty but we are definitely not forging ahead.

TABLE I. ANALYSIS OF EXPENDITURES

Year	Total expenditures	Expenditure per student	Expenditure per faculty member	No. of students per library staff member
1934/35	22145.92	11.07	162.83	333
1935/36	17694.07	8.56	117.17	344
1936/37	22972.00	9.53	139.22	401
1937/38	53735.08(1)	19.88	252.27	270
1938/39	39826.75(1)	12.99	177.00	279
1939/40	37131.99	10.53	151.56	320

(1) Includes Bond Issue Appropriation.

NOTE: Expenditures do not include major items of capital expense as follows: Stacks (1937/38) $2,985.00; Equipment (1939/40) $6,500.00.

If these were included would cause wide deviation from normal.

Expenditure per student is calculated on basis of enrollment during regular session only.

Expenditure per faculty member has been figured with all ranks below instructor excluded.

Analysis of the figures in Table I, shows that expenditures per student and per faculty member in 1939/40 were the lowest in six years with the exception of 1935/36 and 1936/37, when library service was generally recognized as inadequate. Furthermore, in spite of an enlarged physical plant with its attendant necessity for greater supervision, the ratio of students to staff members has risen consistently since 1937/38 until it has almost reached that prevailing six years ago.

ADMINISTRATION

Administration of the University Libraries has been grounded upon the belief that they are a part—a significant part, indeed, of the educational program of the University. Policies have been scrutinized in the light of

their contribution to the teaching and research program; service has been geared to meet demands of students and faculty as far as possible with the resources at our command.

From the standpoint of organization the Baltimore libraries continue to to present a problem. The writer repeats his conviction, previously stated, that the most effective development of these libraries will require a change in organization, centralization of authority and responsibility, and additional financial support. These proposals have been presented in great detail elsewhere hence they will not be repeated here. That efforts at improvement are meeting with some success would seem to be borne out by the increase in use of these libraries, amounting to almost 32 per cent, over the preceding biennium.

THE PHYSICAL PLANT

College Park

The removal of certain administrative offices from the Library Building made a considerable degree of expansion possible. During the spring of 1940 the space formerly occupied by the Offices of the Registrar and Comptroller was converted into a Reserved Book Room. Operating on the open-shelf principle, in accordance with best educational practice, it permits students to browse among the various titles assigned or suggested in their courses and enables them to make a more intelligent selection while at the same time becoming familiar with a number of works. This room seats one hundred readers and raises our total seating capacity to approximately 375, or slightly over ten per cent of the student body. This is still hopelessly inadequate by all accepted standards. A library building, like a public utility, must be prepared to accommodate the peak load whenever it comes. It is not sufficient to say "Come back later on when there will be more seats available."

The crowded condition of the stacks has been relieved by the installation of stacks providing accommodations for some 40,000 volumes in the basement. This should absorb our anticipated increase in size of the book collection for the next four or five years. At the end of that time other provision must be made.

Plans have been drawn for utilization of the balance of the building as soon as the remaining administrative offices withdraw. It will be a great step forward to have the entire building devoted to library purposes.

Baltimore

The state of the physical plant in Baltimore is satisfactory with two exceptions. First, the Dentistry-Pharmacy Library stacks are fast nearing the saturation point and will need to be expanded. In view of their location this will not be easy. Second, the stack installation in the basement of the Medical Library, half completed in 1937, needs to be completed at once.

THE BOOK COLLECTION

Acquisitions

Total acquisitions for the biennium represent a decrease of 7.2 per cent over the preceding period (1936/37–1937/39). Accessions at College Park

dropped 16.3 per cent while those in Baltimore gained 20.7 per cent. Table II presents figures by libraries.

TABLE II. VOLUMES ADDED 1938-1940

	1938/39	1939/40	Total for biennium
College Park—General Library	7,075	6,301	13,376
Baltimore—Dentistry	1,166	706	1,872
Law	1,326	640	1,966
Medicine	1,000	667	1,667
Pharmacy	465	323	788
Total—All libraries	11,032	8,637	19,669

Much of the material added consisted of runs of journals and of sets needed to strengthen our holdings in various fields. Some of the most important acquisitions were:

Dictionary of American history. 5v.
Encyclopedia universal ilustrada. 81v.
Walcott: North American wild flowers. 5v.
Abderhalden: Handbuch der biologischen arbeitsmethoden. Abteilung 1–3 complete.
Besterman: World bibliography of bibliographies. 2v.
Goethe's Werke (Weimar edition) 143v.
Gerard: Herbal (1636 edition).
Smithsonian scientific series. 13v.
Walpole: Correspondence (du Deffand) 6v.
Journal of southern history. v.1-6.
Law and contemporary problems. v.1-6.
Hispanic American historical review. v.1-5, 9-19.
Farmers magazine. 26v. (Complete set).

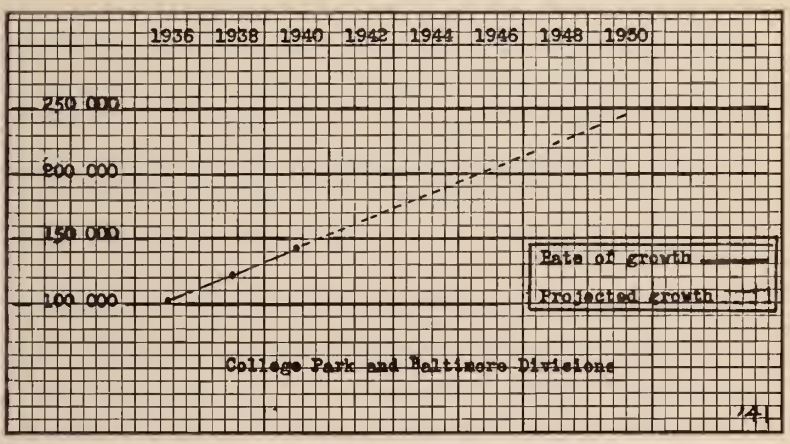
Stock

On September 30, 1940, volumes available in the University Libraries, after adjustment caused by the withdrawal of worn out books and by the inclusion of 587 items not previously counted, totalled 142,880. This represents an increase of 16.4 per cent over the last biennial statement. At this rate of growth we shall double our holdings in approximately twelve years. The Table III shows holdings by libraries. Table IV shows past and projected growth of the book collection.

TABLE III. VOLUMES IN LIBRARIES, SEPTEMBER 30, 1940.

College Park—	General Library	89,192
Baltimore—	Dentistry	8,046
	Law	17,232
	Medicine	20,664
	Pharmacy	7,746
Total	All libraries	142,880

TABLE IV. PAST AND ANTICIPATED GROWTH OF BOOK COLLECTION



Experience has demonstrated that the curve of past growth, if projected, indicates future growth quite accurately.

Periodicals Received

One of the standards most frequently used in evaluating a library is the number of periodicals received. It is therefore particularly gratifying to report a marked gain in this respect during the period under review. On October 1, 1938, we were recording the receipt of 592 titles on campus. Two years later this figure had risen to 928. It should be pointed out that not all of the increase can be attributed to the placement of new subscriptions; much of it is due to the fact that the Library now records all periodicals received on campus regardless of their location. In view of the importance of this type of material we consider this increase an event of major importance.

In order to keep the faculty and staff informed in this connection a "List of Periodicals Currently Received" was prepared and distributed in May 1939. A "First Supplement," indicating changes and additions, was

issued in May 1940 and similarly distributed. Supplements are scheduled to appear at yearly intervals.

Special Collections

Maryland Collection

In the Biennial Report, 1936/37–1937/38, reference was made to "our small but rapidly growing Maryland Collection." It is a pleasure to report that we now have over 2,700 items in this special collection. Additions have been made by transfer of material from the general collections, by gift, by exchange with other libraries, and by purchase. A special effort is made to secure copies of all official publications of the University as well as those of the various faculty members.

Considerable correspondence has been carried on with the various departments of the state government in attempts to make our collection of Maryland state publications as complete as possible. Much material has been secured in this manner.

The purpose of the Maryland Collection is to provide a nucleus of Marylandiana which will serve as a basis for graduate work and research in Maryland history.

Rare Book Collection

A start has been made on a collection of rare and unusual books. Although small at present it is being constantly added to as valuable items are discovered and transferred from the general collections. An occasional addition is made by purchase.

CLASSIFICATION AND CATALOGING

College Park

The biennium has been marked by a more normal and steady flow of material as compared to the preceding period with the total volume of work showing a slight increase. There was a marked increase—120 per cent—in the number of volumes recataloged. This was due in large part to the transfer of material from the General to the Maryland Collection, to the continuation of work on the Serial Catalog, and to sustained effort to eliminate discrepaneies in classification and cataloging which had occurred in past years. With the Serial Catalog now nearing completion it is to be hoped that the amount of recataloging necessary will decline sharply.

Summarized statistics for the department are given in Table V.

Table V. Catalog Department Statistics

Year	Number of volumes	Cards made for catalog	Cards made for shelflist
	Classification and Cataloging		
1938/39	8,286	20,764	4,310
1939/40	7,221	19,301	3,794
Total.....	15,507	40,065	8,104
	Reclassification and Recataloging		
1938/39	5,903	5,408	1,360
1939/40	3,524	4,134	1,047
Total.....	9,427	9,542	2,407
Grand Total.....	24,934	49,607	10,511

Baltimore

In the main classification and cataloging have kept pace with accessions. The sole exception is the Dental Library where the absence of a trained librarian during the biennium caused arrears amounting to approximately 1,000 volumes to develop. With the introduction of more adequate statistical records it will be possible to give fuller information in this respect in subsequent reports.

USE OF THE LIBRARY

Although by no means the only indicator of a library's service circulation figures afford the most accurate quantitative measurement of work performed. The figures in Table VI show that circulation of books has increased by 24.2 per cent at College Park and by 31.8 per cent at Baltimore as compared with the preceding biennium.

TABLE VI. NUMBER OF LOANS—ALL TYPES

College Park	1938/39	1939/40	Total
General Library	81,015	90,666	171,681
Baltimore			
Dentistry	3,754	5,235	8,989
Law	For reference use only—no loans outside library		
Medicine	6,406	5,193	11,599
Pharmacy	3,403	4,768	8,171
Total	94,578	105,862	200,440

An analysis of the circulation at College Park (Table VII.) during the regular sessions for the past four years reveals an interesting trend.

TABLE VII. ANALYSIS OF LOANS, COLLEGE PARK

Year	Circulation by type			Enrollment	Per capita borrowing		
	Home	Reserve	Total		Home	Reserve	Total
1936/37	15,969	39,552	55,521	2,410	6.62	16.41	23.03
1937/38	22,942	30,584	53,526	2,702	8.49	11.31	19.80
1938/39	33,512	33,223	66,735	3,065	10.93	10.84	21.77
1939/40	38,053	34,871	72,924	3,524	10.79	9.90	20.69

Although the total per capita borrowings have remained fairly constant—fluctuating between 19.80 and 23.03 books per person—the proportion between Home Loans and Reserve Book Loans shows a consistent change. Reserve Book Loans have declined steadily each year whereas Home Loans have increased. A warranted assumption here seems to be that instructional methods now place more emphasis on individual reading and investigation; less emphasis on assigned reading from a limited number of titles. An improved book collection, of course, makes this method possible.

EXHIBITS AND READING LISTS

Sustained effort has been made to stimulate intellectual activity and the use of reading materials by exhibiting books in a prominent place in the Delivery Hall. Changed every two or three weeks, and devoted to timely, interesting topics, these exhibits have fully justified themselves by the interest which they have aroused. A few of the "themes" used were: "Au-

thors in Exile," "After College—What?" (Vocational guidance materials). "All Out for Defense," "World War II," "How Strong America?", "College Days Are Here Again" (Freshman orientation), "Background for War," and "America in Books."

Brief reading lists have been prepared and distributed in connection with each exhibit.

THE STAFF

Changes in personnel

We have been singularly fortunate in the low rate of turnover on the library staff during a period which has been characterized by many changes of position in the library field. Mr. H. Glenn Brown resigned his position as Assistant Reference and Loan Librarian at the end of the last biennium and was succeeded by Miss Julia Holzapfel (now Mrs. Carhart), formerly of the Brooklyn Public Library. Miss B. E. Gosnold served on a temporary appointment, June-August, 1940, in place of Mrs. Carhart, who was on leave of absence following her marriage. Mr. Warren Ziegaus resigned as Order Librarian and Instructor in Library Science September 30, 1940. Although the appointment of his successor, Mr. Howard Rovelstad, on October 15, 1940, does not properly belong within the limits of this report it may not be amiss to record it here.

With the exception of an additional junior stenographer, Miss Virginia Law, appointed October, 1938, the staff has not increased in size since 1937.

Professional activities

The staff has been unusually active professionally through membership in state, regional and national organizations and through service on committees and boards. The College Park division was responsible for the planning and acted as host to the Spring 1940 meeting of the Maryland Library Association which brought some 120 librarians from over the state to the campus for a one-day meeting on the topic "State Planning for Library Service." The Baltimore group was active in planning and co-sponsoring the Dental Libraries Section Meeting held as part of the Dental Centenary Celebration in Baltimore, March, 1940. The papers presented at and a report of this meeting appeared in the *Proceedings of the Dental Centenary Celebration,* which had nation wide distribution.

COOPERATION WITH OTHER AGENCIES

Princess Anne College

The Library of Princess Anne College has been administered under the general supervision of the writer. The responsibility for the compilation of a list of some two thousand titles to be purchased from a General Education Board grant of $5,000.00 was undertaken by the College Park division of the University Libraries. Later, the actual purchasing was performed. The amount of time involved in these activities was not inconsiderable.

In addition to the above, recommendations were made with regard to moving and enlarging the Library quarters, and the selection and installation of equipment.

Extension Service

The Library has continued to send a monthly "Bookletter" to Home Demonstration Agents and County Reading Chairmen throughout the State. The number of copies distributed each month has grown from 75 in February 1937 to 325 at the time of writing.

OUTSTANDING NEEDS

The major needs of the University Libraries may be summed up under three headings:

1. The Physical Plant. With occupancy of the entire building at College Park in fairly immediate prospect our situation in this respect appears satisfactory for another four or five years to come. Minor needs in Baltimore include completion of the stack installation in the basement of the Medical Library.
2. The Book Collection. The need for books and periodicals to support instruction and research is ever present. Increased financial support over a sustained period of time is essential if we are to meet all the demands which are made upon us.
3. The Staff. Physical facilities plus books do not insure effective library service. The link between books and readers must ever be the librarian. Our third major need, and one which is undeniable in the light of the evidence, is for a larger staff commensurate with increased demands upon the library.

CONCLUSION

It would be unseemly to close this review of the biennium's activities without giving credit and thanks to the members of the Library staff for their loyal and effective cooperation. On behalf of the staff, and for my own part, thanks are due the Administrative Officers of the University for their interest in and understanding of library problems together with the efforts which they have made to aid in their solution.

The situation, in general, appears promising. The past few years have seen a firm basis laid for future development and there appears to be no sound reason why our hopes should not be realized.

Military Department

R. E. WYSOR, Jr., *Lt. Col., Inf., PMS&T*

ALLOTMENTS for the Advance Course jumped from 112 in 1938 to 155 in 1940. The Basic enrollment increased by 124 during the same period.

Since 1939, the Department has concentrated on a more *practical* form of training, and the improvement of discipline. In September, 1940, the Advance Course program was "streamlined" to turn out combat platoon leaders ready for *immediate* service. Actual combat problems in the field were held several times during the year 1939-40.

"Field Trips" to nearby Army Camps, for the Advance Course, were initiated in 1940.

One of the outstanding developments which started in the Spring of 1940 has been the intense interest shown by the entire Corp of Cadets.

Report of the Registrar

ALMA H. PREINKERT, *Registrar*

THE Office of the Registrar moved to the new Administration Building, in February, 1940, where additional space and a better arrangement of the offices are provided. Files were completely reorganized, and a new filing system was installed. Old summer school records and records from the Baltimore Division of the College of Education, formerly maintained in separate files, have been transferred to the permanent record forms used for regular students, and a single file for all inactive records facilitates their handling. The installation of a photostat machine and a dark room has expedited the issuance of transcripts of records.

On the basis of a careful study made by the Registrar of registration systems and forms in use in sixty institutions comparable to the University of Maryland, the registration system was modified considerably in the fall of 1938, and a set of new forms put into use. The change has simplified and expedited registration, and furnishes needed information to deans, instructors, and other departments concerned without delay.

The revision of forms has resulted in a considerable saving in time and cost. An improved Schedule of Classes facilitates the registration of students and the Directory is being prepared by a planograph process. This makes the publication available much earlier and eliminates considerable proofreading.

The records of the Baltimore schools are being maintained on new record forms, and a system of recording and reporting grades is in operation which assures prompt handling of this work.

So far as time will permit, new statistical studies are undertaken by this Office. During the past biennium the following have been completed in addition to the long list of studies regularly prepared.

1. A study of performance of students on the basis of secondary school attended, covering a five-year period.

2. Analysis of enrolment showing trends over one, five, and ten year periods.
3. Studies of instructional loads, by ranks and departments, showing trends over one, five, and ten year periods.
4. A study of ages of students, and the effect of the Draft on enrolment.
5. Religious statistics.

The registrar has been active in the American Association of Collegiate Registrars, having served, since 1934, on the Board of Editors of the JOURNAL, one of the outstanding educational publications of the country. Considerable recognition has come as a result of a study completed in 1940, entitled "Principles and Practices in American Universities and Colleges" which is a 206 page summary of the material published by the Association during the years 1910 through 1939 and which it is planned, will develop into a Manual for Registrars. At the present time, two copies of this study are being circulated among registrars, one in the East and one in the West, and to meet present requests for this material, the copies are scheduled for two-week periods through January, 1942. From all reports, this information is proving of real value in many colleges and universities.

Herewith, are tables giving information concerning student enrolment, enrolment trends, degrees conferred and certificates awarded, and the instructional staff and instructional loads for the years 1938-1939 and 1939-1940.

Enrollment of Students

COLLEGE PARK

Resident Collegiate Courses:

Academic Year	1938–39			1939–40		
	Men	Women	Total	Men	Women	Total
College of Agriculture	288	32	320	365	35	400
College of Arts and Sciences	608	342	950	621	408	1,029
College of Commerce	281	21	302	363	21	384
College of Education	129	294	423	158	329	487
College of Engineering	474	1	475	554	1	555
College of Home Economics	.....	215	215	.....	276	276
Graduate School	290	90	380	304	89	393
Total Academic Yr. College Park	2,070	995	3,065	2,365	1,159	3,524
Summer School	518	871	1,389	566	835	1,401
Total Resident, Collegiate, College Park, Less Duplications	2,336	1,684	4,020	2,677	1,780	4,457

Extension Courses:						
College of Commerce	27	15	42	.....	.....	.....
College of Engineering	239	.....	239	135	.....	135
Short Courses and Conferences:						
Boys' and Girls' Club	397	207	604	202	428	630
Canning Crops Conference	192	.....	192	150	6	156
Canning Technicians	11	4	15	.....	.....	.....
Educational Advisers, C. C. C.	92	.....	92	108	.....	108
Fertilizer Salesmen	139	.....	139	.....	.....	.....
Florists' Short Course	109	47	156	115	56	171
Garden School	69	194	263	60	197	257
Greenkeepers' School	65	.....	65	49	.....	49
Highway Engineers	121	.....	121	121	.....	121
Milk Testing	.....	.....	.....	5	.....	5
Ministers' Conference	40	.....	40	.....	.....	.....
Nurserymen's Short Course	50	.....	50	101	6	107
Poultry Breeding and Improvement School	287	80	367	91	34	125
Poultry Products Marketing School	104	1	105	80	5	85
Parent Teacher Conference	6	131	137	.....	.....	.....
Rural Women's Short Course	.....	708	708	.....	633	633
Sanitary Engineers	56	.....	56	.....	.....	.....
Traffic Officers	31	.....	31	21	.....	21
Tree Wardens	50	.....	50	50	.....	50
Volunteer Firemen	154	.....	154	186	.....	186
Total Short Courses & Conferences	1,973	1,372	3,345	1,339	1,365	2,704
Total All Courses, College Park Less Duplications	4,575	3,071	7,646	4,151	3,145	7,296

Enrollment of Students

BALTIMORE

Resident Courses:

Academic Year	1938–39			1939–40		
	Men	Women	Total	Men	Women	Total
School of Dentistry	275	6	281	307	3	310
School of Law	232	13	245	221	12	233
School of Medicine	360	17	377	352	24	376
School of Nursing	.....	108	108	.....	121	121
School of Pharmacy	130	17	147	118	15	133
College of Education	191	120	311	238	187	425
Graduate School	57	10	67	59	12	71
Total Academic Year	1,245	291	1,536	1,295	374	1,669
Summer School	97	6	103	101	11	112
Total Baltimore Less Duplications	1,255	292	1,547	1,312	378	1,690
Grand Total All Courses, Less Duplications, College Park and Baltimore	5,778	3,353	9,137	5,382	3,495	8,877

Enrollment Trends

RESIDENT STUDENT, REGULAR ACADEMIC YEAR ENROLLMENT

	1929–30	1934–35	1939–40	Five Year Change Number	Five Year Change Per Cent	Ten Year Change Number	Ten Year Change Per Cent
Agriculture	154	194	400	+206	+106%	+246	+160%
Arts and Sciences	625	865	1,029	+164	+ 19%	+404	+ 65%
Commerce	New College 1938		384				
Education	137	314	487	+173	+ 55%	+350	+255%
Engineering	275	305	555	+250	+ 82%	+280	+102%
Home Economics	76	126	276	+150	+119%	+200	+263%
Total Undergraduate	1,267	1,804	3,131	+1,327	+ 74%	+1,864	+147%
Graduate	143	198	393	+195	+ 98%	+250	+175%
Total College Park	1,410	2,002	3,524	+1,522	+ 76%	+2,114	+150%
Dentistry	349	352	310	—42	— 12%	— 39	— 11%
Education	103	180	425	+245	+136%	+322	+313%
Law	157	220	233	+ 13	+ 6%	+ 76	+ 48%
Medicine	416	437	376	— 61	— 14%	— 40	— 10%
Nursing	104	119	121	+ 2	+ 2%	+ 17	+ 16%
Pharmacy	349	265	133	—132	— 50%	—216	— 61%
Graduate	13	27	71	+ 44	+163%	+ 58	+446%
Total Baltimore	1,491	1,600	1,669	+ 69	+ 4%	+178	+ 12%

Enrollment In First Year Classes

COLLEGE PARK

	1938–39			1939–40		
	Men	Women	Total	Men	Women	Total
Agriculture	116	1	117	157	3	160
Arts and Sciences	278	144	422	231	163	394
Commerce	111	7	118	136	10	146
Education	35	60	95	43	39	82
Engineering	235	.....	235	278	1	279
Home Economics	.....	88	88	.....	119	119
Total	775	300	1,075	848	335	1,180

BALTIMORE

	1938–39			1939–40		
	Men	Women	Total	Men	Women	Total
Dentistry	64	2	66	104	.....	104
Predental	35	1	36	28	.....	28
Education	16	10	26	16	14	30
Law—Day	35	.....	35	39	1	40
Evening	50	4	54	40	3	43
Medicine	92	5	97	91	4	95
Nursing	.....	47	47	.....	51	51
Pharmacy	34	6	40	32	2	34
Total	326	75	401	350	75	425

GEOGRAPHICAL DISTRIBUTION OF RESIDENT STUDENTS
REGULAR ACADEMIC YEAR

	College Park		Baltimore	
	1938–1939	1939–1940	1938–1939	1939–1940
Alabama	....	....	1	1
Arizona	1	1	1	....
Arkansas	2	....	....	....
California	3	3	2	4
Canal Zone	....	....	1	....
Colorado	....	1	1	....
Connecticut	17	18	47	36
Delaware	7	5	9	8
District of Columbia	701	796	63	55
Florida	4	5	4	5
Georgia	5	4	7	4
Hawaii	....	1	....	....
Idaho	1	2	....	....
Illinois	10	8	4	4
Indiana	2	6	1	4
Iowa	5	2	....	1
Kansas	3	1	....	....
Kentucky	2	7	....	1
Louisiana	2	2	....	....
Maine	1	1	1	1
Maryland	2,036	2,337	1,036	1,121
Massachusetts	8	10	10	12
Michigan	1	2	....	1
Minnesota	2	1	1	1
Mississippi	1	1	....	....
Missouri	3	7	....	....
Montana	2	1	....	....
Nebraska	3	2	1	1
Nevada	1	1	....	....
New Hampshire	1	2	2	6
New Jersey	43	66	60	75
New Mexico	....	1	....	....
New York	83	89	84	113
North Carolina	8	4	33	35
North Dakota	1	1	....	....
Ohio	2	9	5	8
Oklahoma	1	....	1	1
Oregon	....	1	1	1
Pennsylvania	33	48	43	38
Puerto Rico	7	7	19	28
Rhode Island	2	2	10	10

GEOGRAPHICAL DISTRIBUTION OF RESIDENT STUDENTS
REGULAR ACADEMIC YEAR

	College Park		Baltimore	
	1938–1939	1939–1940	1938–1939	1939–1940
South Carolina	1	2	6	8
South Dakota	3	1	1	1
Tennessee	1	1	2	1
Texas	3	4	1	....
Utah	2	1	2	3
Vermont	....	1	1	3
Virginia	28	34	20	20
Washington	....	1	50	1
West Virginia	12	14	....	52
Wisconsin	....	1	1	....
British West Indies	....	....	1	1
Canada	1	2	....	....
Chile	1	....	....	....
China	....	....	1	1
Columbia	....	1	1	....
Cuba	3	1	....	2
Japan	1	1	....	....
Republic of Panama	4	4	1	1
Venezuela	1	....	....	....
	3,065	3,524	1,536	1,669

DEGREES AND CERTIFICATES

	1938–1939			1939–1940			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Honorary Degrees	5	.....	5	6	.....	6	11	.....	11
Honorary Certificates of Merit in Agriculture	3	.....	3	4	.....	4	7	.....	7
COLLEGE PARK									
College of Agriculture, Bachelor of Science	43	3	46	40	14	54	83	17	100
College of Arts and Sciences, Bachelor of Arts	35	32	67	22	40	62	57	72	129
Bachelor of Science	43	9	52	33	14	47	76	23	99
College of Commerce, Bachelor of Science	22	4	26	40	4	44	62	8	70
College of Education, Bachelor of Arts	8	22	30	5	22	27	13	44	57
Bachelor of Science	22	43	65	38	52	90	60	95	155
College of Engineering, Bachelor of Science	40	.....	40	56	.....	56	96	.....	96
College of Home Economics, Bachelor of Science	.....	40	40	.....	42	42	.....	82	82
Total Bachelor's Degrees:									
Bachelor of Arts	43	54	97	27	62	89	70	116	186
Bachelor of Science	170	99	269	207	126	333	377	225	602
Total	213	153	366	234	188	422	447	341	788
College of Engineering:									
Professional Engineers	2	.....	2	2	.....	2	4	.....	4
Graduate School:									
Doctor of Philosophy	14	2	16	18	.....	18	32	2	34
Master of Arts	10	9	19	9	17	26	19	26	45
Master of Science	36	8	44	38	5	43	74	13	87
Total, Graduate School	60	19	79	65	22	87	125	41	166
Total Degrees in Course at College Park	275	172	447	301	210	511	576	382	958

BALTIMORE

	1938–1939			1939–1940			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
School of Dentistry									
Doctor of Dental Surgery	61	2	63	15	.....	15	76	2	78
School of Law									
Bachelor of Laws	47	1	48	44	2	46	91	3	94
Certificates of Proficiency	2	.....	2	1	.....	1	3	.....	3
School of Medicine									
Doctor of Medicine	87	1	88	97	3	100	184	4	188
School of Pharmacy									
Bachelor of Science in Pharmacy	45	3	48	43	2	45	88	5	93
School of Nursing									
Graduate in Nursing	.....	21	21	.....	31	31	.....	52	52
Total Degrees and Certificates in Course at Baltimore	242	28	270	200	38	238	442	66	508
Grand Total, All Degrees and Certificates	525	200	725	511	248	759	1,036	448	1,484

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

1938–1939

	Agriculture	Arts and Sciences	Commerce	Education	Engineering	Home Economics	Physical Education	Military	Summer School Specials	Total Less Duplications
Professors	23	18	3	4	4	3	2	1	....	58
Lecturers	3	1	1	....	3	....	....	....	....	8
Associate Professors	10	10	1	1	2	....	....	....	....	24
Assistant Professors	9	14	3	1	7	2	2	4	....	42
Instructors	6	44	2	5	3	3	3	....	49	115
Assistants	6	10	....	....	1	....	....	....	....	17
Graduate Assistants	5	12	1	....	....	....	....	....	....	18
Fellows	6	14	....	1	1	1	....	....	....	23
Critic Teachers	....	....	....	19	....	....	....	....	....	19
Extension	....	....	....	....	7	....	....	....	....	7
Total	68	123	11	31	28	9	7	5	49	331

1939–1940

Professors	25	19	3	8	4	4	2	1	....	64
Lecturers	4	....	1	....	4	....	....	....	....	9
Associate Professors	11	8	3	1	2	....	....	....	....	26
Assistant Professors	10	15	4	1	6	1	2	4	....	43
Instructors	6	45	3	4	6	6	3	....	41	116
Associates	1	1	....	....	1	....	....	....	....	3
Assistants	5	6	....	....	1	....	....	....	....	12
Graduate Assistants	9	10	1	....	....	....	2	....	....	22
Fellows	4	22	1	....	1	....	....	....	....	28
Critic Teachers	....	....	....	58	....	....	....	....	....	58
Extension	....	....	....	....	35	....	....	....	....	35
Total	75	126	16	72	60	11	9	5	41	414

MEMBERS OF STAFF ENGAGED IN INSTRUCTION
BALTIMORE

	1938–1939	1939–1940
Arts and Sciences	13	12
Dentistry	57	54
Education	21	28
Law	19	21
Medicine	290	310
Nursing	34	35
Pharmacy	28	24
Total Less Duplications	437	440
Grand Total, College Park and Baltimore Less Duplications	762	848

STUDENT CREDIT HOURS OF INSTRUCTION
COLLEGE PARK

	1938–1939		1939–1940	
	Number	Per Cent	Number	Per Cent
College of Agriculture	8,944	10.4	9,991	10.2
College of Arts and Sciences	54,010½	62.9	59,860	61.1
College of Commerce	6,176	7.2	8,594	8.8
College of Education	2,218	2.6	2,947	3
College of Engineering	5,673	6.6	6,478	6.6
College of Home Economics	3,277	3.8	3,636	3.7
Library Science	176	.2	142	.1
Military	3,494	4.	3,916	4.
Physical Education for Men	453	.5	534	.5
Physical Education for Women	1,526½	1.8	1,876½	2
	85,948	100%	97,974½	100%

Office of Dean of Women

ADELE STAMP, *Dean*

THE Office of the Dean of Women concerns itself with the general welfare of all women students. The personnel of this office tries to equip them with the ability to adjust themselves to the demand of modern life and to contribute to that society as best they can both while at school and after they have left here. As far as possible the best in academic and social life has been given them, and their accomplishments on campus and their enthusiastic cooperation with this office are encouraging stimulants for the furthering of work of this kind.

HOUSING

The constantly increasing enrollment of women students, 1,000 in 1938 and 1,089 in 1939, brings with it increasing problems. The addition of an Assistant Dean of Women to the Department to handle housing problems has been of great help, but we are still confronted with the problem of finding places for the students to live. Today a number of Maryland girls do not come to their own State University because they cannot be accommodated in the dormitories. The need for another residence hall is acute, and it is hoped that the Governor and the members of the legislature will see fit to meet this need at the next session.

STUDENT ACTIVITIES AND SOCIAL PROGRAMS

Student organizations, clubs, activities evolve because of need; but coincident with these moving forces must come consideration, evaluation, and guidance. The aims in planning the social program at the University both in the regular and the summer sessions are that it shall be so varied that it shall meet the needs of all interests. The program tries to meet the needs not only of the students who are inherent leaders but aims to develop those who are not and bring out their best potentialities. We try to provide for participation of all members of the group. We feel that the social program is a real contributing factor to the better adjustment of the student to the group.

Under able leadership this year the Women's League maintained the highest standards of college life, worked for a closer association between faculty and students and regulated matters of student conduct. This report would not be complete without some mention of TO DO OR NOT TO DO, put out by the Women's League. This little blue book of campus etiquette has been widely read by the students and has proved of real value to them. No other publication of the University has had as many requests for it as this one. The requests have come from all parts of the country, from Maine to California, and it has widely advertised the University. LIFE magazine was sufficiently interested in it to send photographers to our campus and to give us several pages of pictures illustrating this booklet.

Alpha Lambda Delta, freshman honor society, and Mortar Board, senior honor society, have each had a service program of real merit this past biennium. Some of the most important items on their program have been tutoring deficient students, helping with the orientation of new students during Freshmen Week, conducting a "Charm School" and helping with "Bundles for Britain" and the Red Cross.

DAY STUDENTS

The distrbution of our women students is as follows: residence halls 240, sororities and off-campus houses 280, and day students 569. This means that approximately half of our students travel back and forth from the

campus each day. A real effort has been made to make the day students feel that they too are a real part of campus life and to afford them social intercourse and relaxation in pleasant environment.

The "Day Dodgers Club" which is the popular name for day students on our campus has been quite successful this year. It has had a membership of several hundred and has afforded an opportunity for day students to form acquaintances and ripen friendships. It has been entirely social in character.

The day students should have a headquarters, a place to rest, to eat unch, to spend the time between classes and evening meetings. A woman's activity building which would serve as the center of student life and which would act as a link between the day student and campus life would fill a long felt need. In such a building the whole student body would be gathered together as a unified student community. The social influences of this one thing are immeasureably great.

PERSONNEL AND GUIDANCE

Counseling, says Mr. Webster, is "mental advising; deliberating together," a definition which is as true today as it was in his day. The aim of the guidance program of this department is that counseling shall be initiated in so far as possible by the student. However, for those who are entering the University for the first time as freshmen or transfer students, conferences are definitely scheduled. Counseling advisement begins with Freshman Week and continues until the student leaves the institution. It includes problems of maladjustment at home, scholarship, budgeting of time and money, social adjustment, religion, extra-curricular activities, and vocational guidance.

In an attempt to interpret the work of the University to women's organizations—local, state-wide, and national—this department has actively participated in their programs. Some of the most important of these have been: State Federation of Women's Clubs; State League of Women Voters; American Association of University Women; National Association of Deans of Women; Alpha Lambda Delta, national freshman honor society; and Delta Kappa Gamma, national society for outstanding members of the teaching profession.

Department of Physical Education for Men

C. L. MACKERT, *Director*

THE Men's Department of Physical Education, during the past biennium, has intensified the services in its offerings, and has expanded to direct several minor sports. It has been necessary also, due to an unprecedented

increase in the student body, to make its offerings more diversified and extensive, and to devise ways and means of serving larger numbers of students with increasingly limited space.

In the professional education of teachers, the offerings of the Men's and Women's Departments of Physical Education have been closely correlated. This integration of class instruction has conserved the time and energies of a limited staff without impairing the efficiency of the instruction, and has promoted closer relationships that approximate conditions in the secondary field.

The Service Program has been reorganized to include basic training for physical fitness and efficiency. A part of each class period is devoted to activities designed to develop in the individual student strength, endurance, and agility, as well as coordination of various muscle groups. Activities designed to promote mental and emotional stability have been retained. The national emergency makes this type of service invaluable to our citizenry of college age.

The Intramural Program has been expanded to include leagues in major sports from the Men's Dormitories. These leagues have functioned excellently in promoting character building opportunities to replace the subversive activities of dormitory life due to ennui.

The Extramural Program, which has been carried on so successfully for a number of years, developed three sports to a degree that the Athletic Board added them to the Varsity Program of Athletics. These three sports—Soccer, Wrestling, and Golf—have been made minor sports, but remain under the supervision of the Men's Department of Physical Education.

Other services the Department has developed are: demonstrations before high school groups; organization of a local boys club; and cooperation with the state-wide program of athletic meets. This latter service includes officiating, judging, and supervising of athletic events.

The past two years has been a period of expansion, reorganization, and intensification of offerings. A rapidly increasing student body presented almost insurmountable handicaps in meeting the activity needs at the University. That the services of the Department have in no way broken down under this unusual strain is a commendable performance in itself. Removal of space handicaps is anticipated in the near future.

Department of Physical Education for Women

GWENDOLYN DREW, *Director*

THE outstanding work in the Department of Physical Education for Women has been the enlarging and enriching of the two-year required service program. In the wider range of activities made possible in part by

the use of public facilities the Department now offers instruction in the following activities; badminton, bowling, archery, tennis, hockey, basketball, volleyball, softball, riding, riflery, golf, table tennis, deck tennis, handball, swimming, posture and body control, and dancing of all types including social dancing for men and women.

There is a marked increase in the number of women who participate in voluntary recreational activities.

A wide use of the facilities of the Women's Department for University activities for men and women has been sponsored by the Department.

Buildings and Grounds

THAT the responsibilities of the Department of Plant Maintenance and Operation have grown is perhaps best realized by an inspection of the following list of building changes which have taken place since the Biennial Report which covered the years 1938–1939.

Administration Building	Completed in 1940
Men's Dormitory (1st group)	Completed in 1940
Home Economics	Completed in 1940
Infirmary Addition & Remodeling	Completed in 1940
Poultry Research building	Completed in 1940
Addition to Engineering (Now Arts and Science)	Completed in 1940

This expansion has moved the main axis of the campus northward. It increases the road maintenance and interior landscape problems.

Mr. H. L. Crisp for thirty five years associated with the University retired as Superintendent of Buildings and Grounds in 1941. His record of loyal services deserves special mention.

The receipts for the two years ended September 30, 1940, for the several divisions of the Board of Regents and the State Board of Agriculture were as follows:

1938–39

	State of Maryland	U. S. Government	Student Receipts	Sales and Miscellaneous	Total
Instruction, Baltimore	$108,265.50		$379,925.57	$91,721.90	$579,912.97
Instruction and Allied Activities, College Park	390,166.35	$91,459.30	392,706.07	473,898.10	1,348,229.82
University Hospital	135,000.00			443,521.41	578,521.41
Agricultural Experiment Station	84,116.95	115,873.87		64,232.43	264,223.25
Extension Service	191,260.67	195,338.81		50,904.12	437,503.60
Live Stock Sanitary Service	205,429.79			10,161.69	215,591.48
State Dept. of Forestry	68,909.68	13,287.00		55,936.81	138,133.49
Maryland Geological Survey	16,700.00			1,117.08	17,817.08
Md. State Weather Service	2,369.00				2,369.00
Princess Anne College	24,629.65	17,552.79	6,461.86	8,898.38	57,542.68
Athletic and Other Student Activities			99,409.62		99,409.62
Total	$1,226,847.59	$433,511.77	$878,503.12	$1,200,391.92	$3,739,254.40
Percentage of total Income	32.81	11.59	23.49	32.11	100.00

		1939–40			
Instruction, Baltimore	$130,961.12		$402,984.32	$93,472.55	$627,417.99
Instruction and Allied Activities, College Park	375,686.38	$101,148.07	480,796.02	486,851.81	1,444,482.28
University Hospital	113,095.00			516,444.64	629,539.64
Agricultural Experiment Station	75,634.00	118,550.48		81,413.30	275,597.78
Extension Service	196,090.18	195,337.15		80,633.52	472,060.85
Live Stock Sanitary Service	222,640.00			12,551.07	235,191.07
State Dept. of Forestry	60,594.00	17,268.44		66,685.80	144,548.24
Md. Geological Survey	15,383.00			1,096.07	16,479.07
Md. State Weather Service	2,551.00				2,551.00
Princess Anne College	25,983.00	17,635.45	7,278.20	32,919.78	83,816.43
Athletic and Other Student Activities			105,822.69		105,822.69
Total	$1,218,617.68	$449,939.59	$996,881.23	$1,372,068.54	$4,037,507.04
Percentage of Total Income	30.18	11.14	24.69	33.99	100.00

Princess Anne College

R. A. GRIGSBY, *Acting Dean of Administration*

THE Princess Anne College is the part of the University of Maryland devoted to the Education of Negroes. The most outstanding developments at the College for the last two years may be summarized as follows:

Administration: The status of the Coordinator of Teacher Training has been changed to Acting Dean of Instruction. Three new buildings, Administration, Mechanic Arts and Gymnasium with equipment, costing more than $230,000.00, have been added to the physical plant at Princess Anne. The library has been increased and strengthened by the purchase of over $5,000 worth of books.

Division of Agriculture and Agricultural Education: As a result of the addition of new buildings, the Agricultural Division has been able to move into larger quarters where the work of the department can be carried on much more effectively.

Arts and Sciences Division: Likewise additional buildings have offered opportunity for the expansion of the Arts and Sciences Division, particularly in the natural and physical sciences.

The Home Economics and Mechanic Arts Divisions: Housed in new buildings with latest equipment, these divisions represent the outstanding development of the last two years.

Plans are nearly completed, and funds are already available for the erection of a new dormitory for women.

UNIVERSITY OF MARYLAND

OFFICIAL PUBLICATION

Vol. 34 | OCTOBER, 1942 | No. 5

BIENNIAL REPORT
of the
UNIVERSITY OF MARYLAND
and
STATE BOARD OF AGRICULTURE

Including a summary of the work of the University of Maryland, the Agricultural Experiment Station, the Extension Service, the State Board of Agriculture, and other branches of work under the jurisdiction of the University and State Board of Agriculture.



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BOARD OF REGENTS
OF THE UNIVERSITY OF MARYLAND
and
Maryland State Board of Agriculture

		Term Expires
Henry Holzapfel	Hagerstown	1943
J. Milton Patterson	Baltimore	1944
Paul S. Knotts	Denton	1946
Mrs. John L. Whitehurst	Baltimore	1947
Rowland K. Adams	Baltimore	1948
William P. Cole, Jr.	Towson	1949
Philip C. Turner	Parkton	1950
W. Calvin Chesnut	Baltimore	1951
John E. Semmes	Baltimore	1951
Harry H. Nuttle	Denton	1948
Thomas Roy Brookes	Bel Air	1950

LETTERS OF TRANSMITTAL

His Excellency Governor Herbert R. O'Conor,
and the General Assembly of Maryland,
Annapolis, Maryland.

Sir and Gentlemen:

The Board of Regents of the University of Maryland and the Maryland State Board of Agriculture herewith render a report of the work of the several departments under their jurisdiction for the past two years.

Very truly yours,

ROWLAND K. ADAMS, *Chairman.*

Chairman, Board of Regents of the University of Maryland and the Maryland State Board of Agriculture.

Sir:

Herewith is a brief report of the University of Maryland and the Maryland State Board of Agriculture for the last two years. This report includes all branches of work under each board and included the period covered in the State's fiscal biennium from October 1, 1940 to September 30, 1942.

Very truly yours,

H. C. BYRD,

President and Executive Officer

College of Agriculture

Dr. H. F. Cotterman, *Assistant Dean*

During the biennium just closed the enrollment in the College of Agriculture reached the all time high of 425. Coupled with the requests for special work from students in other colleges and the graduate school, the instructional load for this college was heavier than at any previous time.

With the inauguration of the draft and particularly with the receipt of the news from Pearl Harbor, students became restless. Some dropped out of college, others transferred to the applied physical science, while others failed to return because of the farm labor situation. Withal 125 students are enrolled in the current summer semester with prospects for a much larger enrollment with the opening of the College in the fall.

Education in fundamentals continues to receive special attention. The professional and scientific curricula correlate technical, basic sciences, and cultural subjects in careful balance.

The College maintains its program for those who wish to engage in general farming, livestock production, some phase of dairying, poultry husbandry, fruit or vegetable growing, floriculture, ornamental horticulture, field crop production, or in the highly specialized activities connected with these industries. It prepares men to serve as farm managers, as teachers in agricultural colleges and high schools, and as investigators in experiment stations. It prepares for extension work, for regulatory activities, for service in the United States Department of Agriculture, and for positions with commercial concerns related to agriculture. Its curricula in Botany, Entomology, Animal Science, Dairy Science, Poultry Science, and Soil Technology offer rich opportunities to the student with a scientific bent of mind, and lead to positions with many ramifications in teaching, research, extension, and regulatory work.

Placement continued heavy. Ninety-five percent of the June graduates of each year were in satisfactory positions by the succeeding November. War industries and the new demands on agriculture, coupled with the opportunities in the army for those who carried the Reserve Officers Training Corps schedule as a part of their college programs, has made for a real scarcity of trained personnel in agriculture. The manpower shortage in this area grows daily.

Many of the younger staff members in the College of Agriculture likewise accepted positions with the armed forces. However, with some replacements, the staff is adequate to meet enrollment demands at the present time.

Due to the shrinkage in enrollment, plant and equipment are adequate as the situation now stands.

Student organizations are active and continue to provide opportunity for that type of expression and growth so desirable as a supplement to instruction in the class room.

Agricultural Experiment Station

R. B. CORBETT, *Director*

MARYLAND'S Station has been a leader among the Agricultural Experiment Stations in adjusting its work to the war effort of the nation. Virtually every project of the Maryland Station is now a direct contribution to the country's war needs. The Maryland Station has also assisted in bringing about shifts in the work of other stations as is indicated by the Director's being Chairman of a special committee for this purpose from the Northeastern Stations, and also by presentation of a paper before all Station directors on this subject at the Land-Grant College meetings in Chicago a year ago.

The value of a considerable part of the work of the Station was increased and the need for it greatly intensified by the declaration of war. Attempts to accelerate the accomplishment of results have been the only changes in such work. In some of the work there has been a shift in emphasis because the war made some particular phase more important. In 30 to 40 percent of the work, changes have been made. The following are a few examples of the new work and of the shifts that have been accomplished:

1. Dehydration of a number of vegetables and of apples. The best methods of dehydrating these products, the keeping qualities of the resultant dehydrated foods, including bacterial action, and the effect of dehydration on vitamin content of these foods are being studied. With our armed forces scattered over the face of the globe, methods that will allow long storage and transportation of large quantities of food are essential. Dehydration seems to be one of the most promising means of insuring food supplies to our armies and to our allies. Such foods take less space in ships, are much lighter in weight, and apparently keep satisfactorily under the conditions in Alaska, Africa, or the Southern Pacific.

2. The application of the new techniques in plant breeding. Gladioli have been used as the subject for obtaining this new breeding knowledge. About a year ago, plans were laid to virtually discontinue the work with gladioli and to use the techniques which had been gained from this work in crossing plants which were capable of producing oil. Oil and fats are always desperately needed in time of war. Thus the Maryland Station is using some of its latest knowledge and techniques to assist in the production of oil for war purposes.

3. Other fields in which shifts have been made are:

   a. Maintaining soil fertility and crop production with shortages of certain fertilizer constituents.
   b. Substituting new insecticides and fungicides for unobtainable chemicals commonly used.
   c. Increased emphasis on control of plant and animal diseases.
   d. Reduction of milk and milk products in dairy and poultry feeds.
   e. Increased efficiency in the production of needed agricultural crops and of livestock products.
   f. Improvement in marketing facilities so as to reduce the amount of labor needed.
   g. Periodic reports on the labor situation and other conditions which are indicative of the ability of Maryland's farms to produce.

Agreements with a number of industrial concerns are in effect. These agreements have assisted the Station in solving specific problems in which the various companies were interested, and in each case, the problem involved is one that means much to some phase of agriculture in Maryland. Some of the cooperating companies are:

1. Atlantic Supply Company
2. American Potash Institute
3. American Cyanimid Company
4. U. S. Industrial Chemicals, Inc.
5. Blakeford Farms, Inc.
6. Mr. Daniel H. Lutz (Dehydrator.)

A number of the projects are cooperative with the Department of Agriculture; as, for example, the work in dehydration is cooperative with the Bureau of Home Economics of the U. S. Department of Agriculture.

Members of the Station staff are cooperating in war activities which are in addition to their regular work; for example, serving on the State Nutrition Committee, serving on the Committee for Industrial Feeding, and the Community War Fund Drive. Members of the staff are being requested to give talks and to furnish information to groups and conferences that are attempting to formulate programs that will assist in the war effort.

This is a brief and generalized report. To be more specific would require details that would make the report much longer than that requested.

The Extension Service

DR. T. B. SYMONS, *Director*

THE work of the Extension Service during the biennium has been adjected to needs and demands in the war effort. Many of the regular activities contributed to the expanded production of farm crops called for, but certain changes in emphasis were necessary. In addition, the Service was charged with a number of functions connection with wartime measures as they affected rural people.

With passage of the Lend-Lease Act early in 1941, maximum production of most farm commodities became the major program. Practical y all phases of extension work were employed in helping farm people produce and conserve efficiently. The agents in the counties, the specialists in all lines of production and control of pests and diseases, and those working with women and with boys and girls all contributed to the production effort.

Goals for increased production of vitally needed farm products were established on a state, county, and individual farm basis in the fall of 1941, in line with the goals set up in the national Food-for-Freedom program. An educational campaign was conducted by the Extension Service to inform rural people regarding the situation, the need for the increased production asked for, and methods for most efficiently meeting the goals. The Service assisted also in making an "every-farm canvass" to determine whether the goals would be reached. Education on efficient production and conservation continued throughout the year. Maryland farmers exceeded practically all goals set for them.

Responsibility for conducting the educational phases of war-time activities, so far as rural people were concerned, was assigned to the Extension Service by the Secretary of Agriculture. Under this responsibility, there have been a number of state-wide programs in progress at all times.

As the all-out war effort calls for reaching every farm family as nearly as possible, and since some of the commonly used methods for disseminating information have been curtailed, it has been necessary to devise and organize new methods. Outstanding in this respect was the enlistment of neighborhood extension leaders throughout the state. At present, approximately 7,000 such leaders have been selected to which detailed information on war programs and measures is sent and which each leader is charged with passing on to 10 to 12 of his or her neighboring families.

Typical of the wartime information disseminated in that way, as well as in other ways, was information on the effects of inflation, the President's seven-point program for control of cost of living, sugar and gasoline rationing, restrictions on supplies of fertilizers and spray materials, campaigns for salvaging waste paper, rubber, grease and metals. A series of wartime leaflets was issued to convey concise information to the leaders and in some cases for them to pass on to the families in their neighborhood.

Many other activities required more or less extensive educational campaigns. The Extension Service was made responsible for organizing and training people for prevention and control of fires in rural areas; in this effort it had the cooperation of the State Department of Forestry, State Fire Warden, and other interested agencies. A campaign was conducted to enlist rural people in the effort to conserve fuel and acquaint them with most effective methods. The storage of wheat was an acute problem and assistance was necessary to assure that the available facilities were used to the best interests of all concerned. A similar problem was encountered

in storing the record soybean crop grown in response to war demands for oil. Feeding wheat to livestock is a part of the national program and extension workers have provided stockmen and poultrymen with information on most efficient methods for including it in their rations.

One of the most effective campaigns had to do with salvaging old machinery for scrap metal, ordering early the new machines and repair parts needed, and instruction in repairing machines. Extension agricultural engineers took the lead in this campaign. More than 75 schools for instruction were held in cooperation with vocational forces. New machinery orders were placed early and old machines were over-hauled to the extent that farmers suffered very little from shortage. An educational campaign in connection with rationing of farm machinery is now in progress.

The farm labor problem has been serious throughout practically all of the two years. Specialists of the Extension Service have aided the State Farm Labor Committee in its outstanding work, and the county agents have served as secretaries of farm labor committees in their respective counties. The work of these committees has dealt with many phases of the problem and has become increasingly important. The Extension Service also cooperated with school officials, the McDonogh School, and many other agencies in training high school boys in Baltimore and Washington for work on farms and in placing approximately 450 boys that were trained in that way.

The Extension Marketing Specialist and Chief of the State Department of Markets assisted the USDA War Board in carrying out the program for an increased pack of canned vegetables, principally tomatoes and peas.

One of the big problems in the war program is to obtain unprecedented production of farm crops and at the same time maintain the fertility of the soil. The Extension Service has cooperated with the Soil Conservation Service in establishing soil conservation districts and assisting farmers in adopting practices which have been demonstrated to result in higher yields with less labor and that reduce soil waste. Fourteen soil conservation districts have been formed, comprising about 4,000,000 acres, or 70 percent of the farm land in the state. In addition, a campaign was conducted for the adoption of simple soil-saving practices which the individual farmer can carry out on his land.

Women have had a prominent part in practically all wartime programs, including those which were not directly concerned with the home. They had a major part in the Victory Garden program and also were probably the most important factor in adding to the food supply by increased farm production of poultry and eggs. Adequate nutrition, home food production, conservation and preservation have all been important parts of the women's work. Remodeling and caring for clothing for the entire family so as to make it last as long as possible were the basis of educational programs. A series of sewing machine clinics throughout the state proved of great interest and value to the women in their wartime economy.

Demonstrations have always been a feature of Extension teaching. While the emergency activities required much of the attention of Extension agents for the biennium they conducted 12,389 demonstrations with an attendance of 221,863.

Under the leadership of extension workers and their local leaders, 4-H club boys and girls to the number of more than 10,000 directed their efforts to assistance in the war program. All over the state they have produced and preserved food, collected scrap, purchased war bonds and stamps, developed fire control units, followed better food and health habits, and aided in civilian defense in various ways, such as air raid wardens and airplane spotters. These wartime efforts are principally in addition to their usual projects, or represent expansion of such projects as are in the line of producing or conserving products that are helpful in the war effort.

The Extension Service has cooperated with many agencies, including other departments of the University, the USDA War Board, Civilian Defense organizations, Soil Conservation Service, AAA, public and vocational school officials, farm organizations, and others.

State Horticultural Department

CERTAIN duties and responsibilities are delegated to the State Enl tomologist and State Plant Pathologist under the State Horticultura- Department, which is under the supervision of the Director of the Extension Service.

Inspection of nurseries and floral establishments and the issuance of certificates for movement of their stock comprised an important part of this work. Cooperation with the Federal Government in connection with Japanese beetle and other quarantines was another control function of this department.

The most outstanding activity carried out during the last two years was a campaign to control Japanese beetles. It was designed to retard their multiplication and spread and also to establish disease and parasites for the purpose of obtaining permanent relief from the damage done by the pest. Approximately 100,000 beetle traps have been operated each year, more than 500 colonies of parasitic wasps have been liberated, and 22,000 pounds of spore dust of the milky white disease have been spread systematically in the heavier areas. Other control methods have been used on somewhat less extensive scale.

State Inspection and Regulatory Service

DR. L. B. BROUGHTON, *State Chemist*

THE State Inspection and Regulatory Service during the past two years collected and analyzed 8,661 samples of products. In addition to the official samples tested, 875 were forwarded by residents of the State, and were examined free of charge. This represents a very useful public service to agricultural interests, and one which continues to grow from year to year.

From the examinations of official samples, twenty-two (22) major violations were detected, mainly on the part of out-of-state shippers. These violators were prosecuted in the courts, fines assessed, and the materials removed from the market until properly labeled. This service not only protects the consumer from fraud, but the honest manufacturer from unfair competition.

The practical enforcement of Agricultural Inspection laws, even under the stress and strain of wartime emergency, is absolutely necessary. Control of quality has been important in the past but it is doubly so now. Food production goals have been established. It is essential that they be met. This cannot be accomplished by a lowering of quality, or any cessation of inspection routine. Proper distribution of correctly labeled agricultural commodities should be considered as another instrument for winning the war. This means teamwork and coordination on the part of each and everyone in carrying our share of the responsibility.

College of Arts and Sciences

DR. L. B. BROUGHTON, *Dean*

THE first year of the biennium the College operated on a normal program —the second year, however, the Nation being at War many problems developed which made it seem necessary to change our academic program to meet the conditions of the emergency. As a result of the War it has been a problem to maintain an adequate staff in many departments. During this period 5 staff members have enlisted in the armed forces and 7 have entered the government service. So far staff replacements have not been difficult. However, to acquire the services of teachers with training and experience necessary to maintain high university standards is becoming difficult, and if the College is to continue its high plane of academic work additional funds must be available to meet the competition for well-trained staff members.

As in the past the College of Arts and Sciences through its 17 departments has continued to provide liberal training leading to a baccalaureate degree in the fields of Natural Sciences, Social Sciences and Humanities. The policy of the College is to provide sound training in fundamental subjects, aiming to be progressive under our present system of education, and at the same time avoiding current academic fads.

The College also offers to the students in others Colleges of the University training in fundamental subjects, both cultural and scientific, thereby permitting them to acquire the perspective needed for liberal culture and public service.

In the graduate field of study the College has continued to maintain a high standard for advanced degrees. Graduate work leading to the degrees of Master of Arts and Master of Sciences and Doctor of Philosophy is being offered in Chemistry, Economics, English, History, Mathematics, Languages, Political Science, Physics, Psychology, Sociology, Bacteriology and Zoology.

For the school term 1940-41 and 1941-42 respectively 152 and 175 degrees were conferred upon undergraduates.

During 1940-41 and 1941-42 respectively the following graduate degrees were conferred:—15—11 Doctor of Philosophy, 19—4 Master of Arts, and 8—7 Master of Science.

For the past biennium, regardless of the emergency, members of the College Staff have delivered more than 500 public lectures throughout the state. Addresses were made before civic and service clubs, high school groups and commencement exercises to audiences numbering more than 50,000 persons.

To stimulate scholarly advancement the College has encouraged its staff members to conduct research and investigation in their special fields. As a result 150 papers and 8 books have been published in the past two years, in addition to some 60 book reviews.

The divisional organization of the College of Arts and Sciences has been continued, and has effected the desired administrative and academic correlation. It has proven helpful in guiding students in the selection and planning of courses in a chosen field.

For the past two years the Divisions of Physical and Biological Sciences entered whole-heartedly into a progressive academic program and have directed their research energies towards war emergency problems.

The Department of Bacteriology recently transferred to the College of Arts and Sciences has expanded its offerings to the end that new courses in Public Health Bacteriology, and in Food Preservation are being offered at the University for the first time.

At the request of the Division of Nutrition of the Surgeon General's Office, U. S. Army, the Department is continuing its research on the destruction of Vitamin "C" by micro-organisms. Confidential research in cooperation with the Quartermaster General's Office involving "A Study of Various Methods for the Sterilization of Clothes, Shoes, Etc." is in progress. This latter problem is a part of the extensive research program of the National Research Council for the Army and Navy. Other research projects in progress relating to preservation of food and health are: (a) Influence of Citrus Fruits on the Microbial Flora of the Mouth and General Health, (b) The Sterilization of Spices with Ethylene Oxide, (c) A Study of the Influence of Commercial Processes on the Bacterial Contamination of Crab Meat.

The Department of Chemistry, aside from its regular academic research program which is a part of the graduate program of the University, have undertaken the following projects directly related to the war effort:—

1. Confidential work of a synthetic nature undertaken under contract with the National Advisory Committee of Aeronautics begun in March 1941, and completed in February 1942. Work done under the direction of Dr. N. L. Drake.

2. Project for the National Research Council involving work on eutetic diagrams. This work was carried out by Dr. Malcolm M. Haring in the summer of 1941.

3. Confidential work under contract with the National Defense Research Committee from March 1942 to September 1942.

4. Confidential contract with the National Defense Research Committee from September 1, 1942 to June 30, 1943.

   On both of these contracts with the National Defense Research Committee Dr. Harry D. Anspon is employed and Dr. Drake is directing the investigation and devoting a great deal of his time to it.

5. Work on synthetic antimalarials for the Committee on Medical Research. Dr. Drake has accepted membership on the Malaria Conference Committee and will continue to cooperate in this work.

Within the biennium the Departments of Mathematics and Physics have been reorganized with Dr. Monroe H. Martin, Head of the Mathematics Department and Dr. Raymond Morgan, Chairman of the Department of Physics. To satisfy the demands of the armed forces and to train students for the present emergency these departments have geared their academic programs to meet the war needs.

In the field of Zoology new courses have been offered which bear directly on the national program of physical development. The research program of the Department includes the following problems which have some bearing on the war effort:

Dr. S. O. Burhoe is carrying on studies in blood groups which is important in the field of transfusion.

Dr. R. V. Truitt is continuing work on pollution in connection with both private and state agencies. He is also carrying on informal cooperation with the Chemical Warfare Service. The latter is of a confidential nature.

Dr. Willis Tressler is continuing his work in planktology with particular reference to the conditions in the Chesapeake Bay.

Dr. N. E. Phillips is carrying on work in Physical Fitness Tests.

Dr. R. A. Littleford, a new member of the staff, is continuing his research on nutrition and growth of animals.

THE SOCIAL SCIENCES

The Department of History is placing primary emphasis upon vigorous and stimulating teaching on the assumption that in this capacity it can best serve our student constituency. To meet special war needs courses have been organized on the "British Empire," "The Far East," "Europe Since 1914," and "World History."

Members of this Department have contributed 16 papers for publication in the past two years, and there has just been delivered from the press two volumes on the "History of Historical Writing" (by our Dr. Bernard J. Holm, collaborating with Dr. James W. Thompson) which will be the standard reference in g raduate schools and libraries for years to come.

The Department of Political Science has included two wartime courses in its curriculum. These are "American Government in Wartime" and "Civilian Military Relations in the United States." The courses in Comparative Government have been enlarged by including a course on Far Eastern Government and Latin American Governments. In addition, the content of a number of other courses, particularly in International Relations and Public Administration have been revised to emphasize wartime problems and needs.

In the field of research several projects involving contact with government officials have been conducted during the past two years. The principal ones have dealt with the Hatch "Anti-Political Activity Law," and the "Effect of the War on Federal Personnel Policy," and the "Agricultural Referendum."

The chief developments of the Psychology Department's program during the past two years have been the organization of a training program in "Personnel Psychology" and a shift in course offerings emphasizing various aspects of the war situation. In addition, the activities of the Student Guidance Clinic have been expanded and emphasized.

A steady strengthening of the personnel and of the instructional program of the Department of Sociology has taken place during the past two years.

The understanding of the issues at stake in the present war and in the peace that will follow, is of vital importance to the morale of young people. To this end new courses have been introduced on the Sociology of War and Post-War Problems of Social Organizations. An extensive research program is now underway in these fields.

HUMANITIES

There has been no particular expansion in the Department of English for the past two years. There has, however, been introduced remedial reading and vocabulary building in all beginning courses in English. This step has been taken in recognition of the need which has now become nationally recognized since national tests show that entering students do not read with understanding and that their vocabulary has been declining in adequacy for a number of years.

As for war work, this Department has introduced a book in Business English, including a section on war correspondence approved by the War Department.

In Expository Writing the book of Essays studied has been changed to one which deals with the problems of democracy and the development of American democracy.

Since it is becoming increasingly more clear that thousands of Americans will be going abroad in the war and post-war years the Department of Foreign Languages and Literature is offering additional courses in the subject most needful for men in foreign lands. To this end the Department is now offering courses in Chinese, Russian and Portuguese, in addition to French, German, Spanish, Latin and Italian. Conversational ability is being stressed.

A very gratifying addition to the staff of Foreign Languages and Literature was that of Dr. Albert A. Franklin, an expert on Latin-America. He is offering a lecture course in English on the Development of Latin-America in addition to his language courses.

The major development in the Department of Speech has been the establishment of a clinic for speech correction. The Department is rendering assistance to the Public School System through two clinical centers one in Cumberland and one in Westminster, Maryland.

In cooperation with the Department of Military Science a course has been organized and put in operation in Military Speech.

There is a growing interest in Music on the University Campus. Among the high lights of the singing groups have been the singing over nation wide radio hook-ups, the National Farm and Home Hours, Appearances in

Concerts and the World's Fair, New York City, on the stage at Constitution Hall at the Golden Jubilee of the D. A. R., and annual and consecutive appearances at the Maryland Casualty Company in Baltimore. The University Glee Club has appeared with the well-known John Charles Thomas, Nino Martini, Emma Otero, Geoffrey O'Hara, Fred Waring, and Norman Gordon. They have sung before many thousands of people; have been in demand for many programs as well as presenting an annual concert. Considering this is a one-man department it has been very active in the past two years.

In presenting this report the Faculty and Staff of the College of Arts and Sciences wish to express their appreciation to the President and the Members of the Board of Regents of the University for their whole-hearted support and encouragement.

College of Education

DR. ARNOLD E. JOYAL, *Acting D an*

THERE has been a steady growth in the enrollment and accomplishments of the College of Education during the past two years, especially at the graduate level. In general, the growth in enrollments has approximated twenty per cent among undergraduates and nearly one hundred per cent at the graduate level. During the last academic year more Masters degrees were awarded in the College of Education than during any comparable period, and more than twice as many as in 1939.

During the past two years the College of Education has launched a program leading to the Ph. D. in Education. At the present time we have about ten candidates for the degree, including three full-time students, one of whom has completed all requirements except the dissertation. Two others have passed their language examinations, and are now working on dissertations. It may be noted, however, that the College recognizes that because of a limited staff, the number of candidates for the doctorate must be rather strictly limited and probably should not exceed ten students at any time.

Until fairly recently, the faculty of the College has remained intact. However, since June, 1942, there have been several changes. Dean Benjamin is serving with the United States Army, as also is Mr. George Kabat, who for the past two years, has been a part-time instructor. Miss Gladys Wiggin left to take a position with the United States Signal Corps and Miss Kathleen Smith was granted a leave of absence because of ill health. At least one other loss to the Army is imminent.

During the past two years through bi-weekly faculty meetings, the staff of the College of Education has studied and attempted to improve the

curricula and policies of this division of the University. Several significant changes have been made. Probably the most important change has been in the strengthening of our selective admissions policy through the introduction of two new freshman and sophomore courses designed principally for purposes of testing, counseling, and guidance. At the present time the faculty is studying the problem of coordinating the offerings of the Baltimore Division of the College of Education with the program at College Park.

During the year 1941-40 the faculty of the College of Education prepared a report for the Prince George's County School Board. This study, called "A Proposed Plan of Reorganization for the Secondary Schools in Prince George's County" was undertaken as a faculty project. It was subsequently published by the Prince George's County Board of Education. As a result of the study, a projected building program was launched and one of the proposed schools has actually been constructed.

The College of Education has made every effort to cooperate with the State Department of Education during the past biennium. At the present time Professor Glen Brown is serving on the staff of the State Department of Education in a part-time capacity as supervisor of Industrial Arts for the State of Maryland. During the year 1941-42, Professor Brown acted as State Director of the N. Y. A., on leave from the University.

During the summer of 1941, from May through September, Professor Joyal served as a senior specialist in school facilities for the United States Office of Education. He set up and administered the school program under the Lanham Act in the four states of California, Oregon, Washington, and Nevada. At the present time Professor Joyal is chairman of the N. Y. A. College Work Council for Maryland. From September, 1941, to July, 1942, Professor Harold Hand served as curriculum consultant to the National Citizenship Education program, a project of the Naturalization Bureau, the United States Office of Education, and the Adult Education Division of the W. P. A. "Appraising Guidance in Secondary School" and contributed numerous articles to various journals and yearbooks in his field of special interests.

Summarizing, it appears that significant progress has been made, under the leadership of Dean Harold Benjamin, in developing the program of the College of Education during the past two years. Since the summer of 1942, conditions arising from the war have seriously disrupted the program. The need for public school teachers has become more acute. The facilities for educating prospective teachers in the College of Education, especially in terms of personnel, have been definitely curtailed. However, every indication points to the further expansion and development of the College of Education as rapidly as personnel can be strengthened and general conditions improved.

Summer Session

THE Summer School for the year 1941, operated on the same general plan followed for many years. It covered a six-week period and enrolled 1,244 students, a number slightly less than that for the preceding summer. Most of the students were teachers in service, but many were regular university students.

Under the impact of the beginning of the war, the summer school of 1942 assumed a new form. A full semester of regular university courses was offered extending from June 22 to October 2, as a part of an accelerated program designed to meet the urgent needs of a strenuous period, and upon this semester were superimposed two seven and one-half week terms of the summer school proper in addition to a three-week intersession for certain workshops and special courses. The school day was lengthened. In spite of these special provisions the enrollment was greatly reduced from that of former years.

College of Engineering

S. S. STEINBERG, *Dean*

THE more important developments in the College of Engineering during the past biennium were the continued national recognition of our several departments, the continued record student enrollment (see chart attached) and the many services rendered to the Army, the Navy, State and Federal departments, and to private industry in furthering the war effort.

Despite the unsettled conditions during the past two years we have been fortunate in maintaining on our staff our more important faculty members.

ENGINEERING, SCIENCE AND MANAGEMENT WAR TRAINING

This program of cooperation with the U. S. Office of Education for specialized engineering training essential to the war effort, through courses of college grade, has been in effect continuously since December, 1940. These courses are being held primarily at night at several centers, including College Park, Baltimore, Aberdeen, Hagerstown, Cumberland, and Washington, D. C. Since the beginning of the program more than 4,500 men and women have enrolled. This program has been of great value in supplying trained supervisory personnel to the war industries of Maryland, and to the Army and the Navy.

The Dean of the College of Engineering is serving as Regional Adviser to the U. S. Office of Education for all training under this program in the colleges and universities in Maryland and the District of Columbia.

This cooperation has enabled us to purchase considerable office, drafting room and laboratory equipment in all the departments of the College of Engineering.

DEPARTMENT OF CHEMICAL ENGINEERING

The most important development in this department was the recent accrediting of its curriculum by the Engineers' Council for Professional Development. This was granted at the earliest possible eligible date since the department was organized in 1937.

The department has been actively engaged in many war services through cooperation in research and through consulting services. Dr. W. J. Huff, Chairman and Professor of Chemical Engineering, continued to serve as Consultant with the U. S. Bureau of Mines and assisted in the passage of the Federal Explosives Act. He supervised confidential research and development for the Army Ordnance Department and directed important studies on board aircraft carriers for the Navy.

The department also cooperated with the Chemical Warfare Service and the U. S. Bureau of Mines in the investigation of aerial incendiary bombs. It assisted with the Maryland Bureau of Mines in the investigation of a major explosion at Cumberland, cooperated with the State Legislature with reference to fireworks, and gave court testimony for the Attorney General, the State Insurance Commissioner and the State Fire Marshal's Office.

In cooperation with the Crown Central Petroleum Corporation, the Department carried on research studies in the manufacture of toluene for TNT. During the biennium three Ph.D. degrees were granted.

DEPARTMENT OF CIVIL ENGINEERING

This department continues its cooperation with many private organizations and with State and Federal departments. Its relations with the National Sand and Gravel Association, whose testing and research laboratories are located on this campus, were particularly strengthened by greater cooperation in research.

At the request of the Maryland Council of Defense and the Office of Civilian Defense in Washington, a special three-day conference was held in Baltimore on Plant Protection, attended by industrial executives throughout the State.

Other activities of this department are best indicated by the following appointments and elections received during the biennium by Dean S. S. Steinberg, Chairman and Professor of Civil Engineering:

President, Planning Division, American Road Builders' Association.
Chairman, Water Resources Commission of Maryland.
Regional Adviser, Engineering, Science and Management War Training.
Chairman, National Capital Section, Society for the Promotion of Engineering Education.

Vice-Chairman, Maryland Traffic Safety Commission.
Secretary, Engineering Section, Association of Land Grant Colleges and Universities.
Training Consultant, Training Within Industry, War Manpower Commission.
Technical Adviser, Third Region, Office of Civilian Defense.
Member, Maryland State Board of Registration for Professional Engineers and Land Surveyors.
Chairman, Committee on Professional Objectives, Maryland Section, American Society of Civil Engineers.
Editor, Annual Proceedings, American Road Builders' Association.
Member, Executive Committee, Survey and Mapping Division, American Society of Civil Engineers.
Member, Advisory Board, D. C. Division, American Automobile Association.
Member, Committee on Research, American Concrete Institute.
Member, War Price and Rationing Board, Prince George's County, Md.; also Chairman, Transportation Committee.

DEPARTMENT OF ELECTRICAL ENGINEERING

The most important development in this department was the appointment of Professor George F. Corcoran as Chairman and Professor of Electrical Engineering. Professor Corcoran comes to us from Iowa State University with a wealth of teaching and practical experience. He is nationally known as an author of textbooks in his field. Under his direction, the department has been reorganized, its equipment greatly expanded, by purchase and by gifts, and its services to the armed forces and war industries in the State greatly expanded.

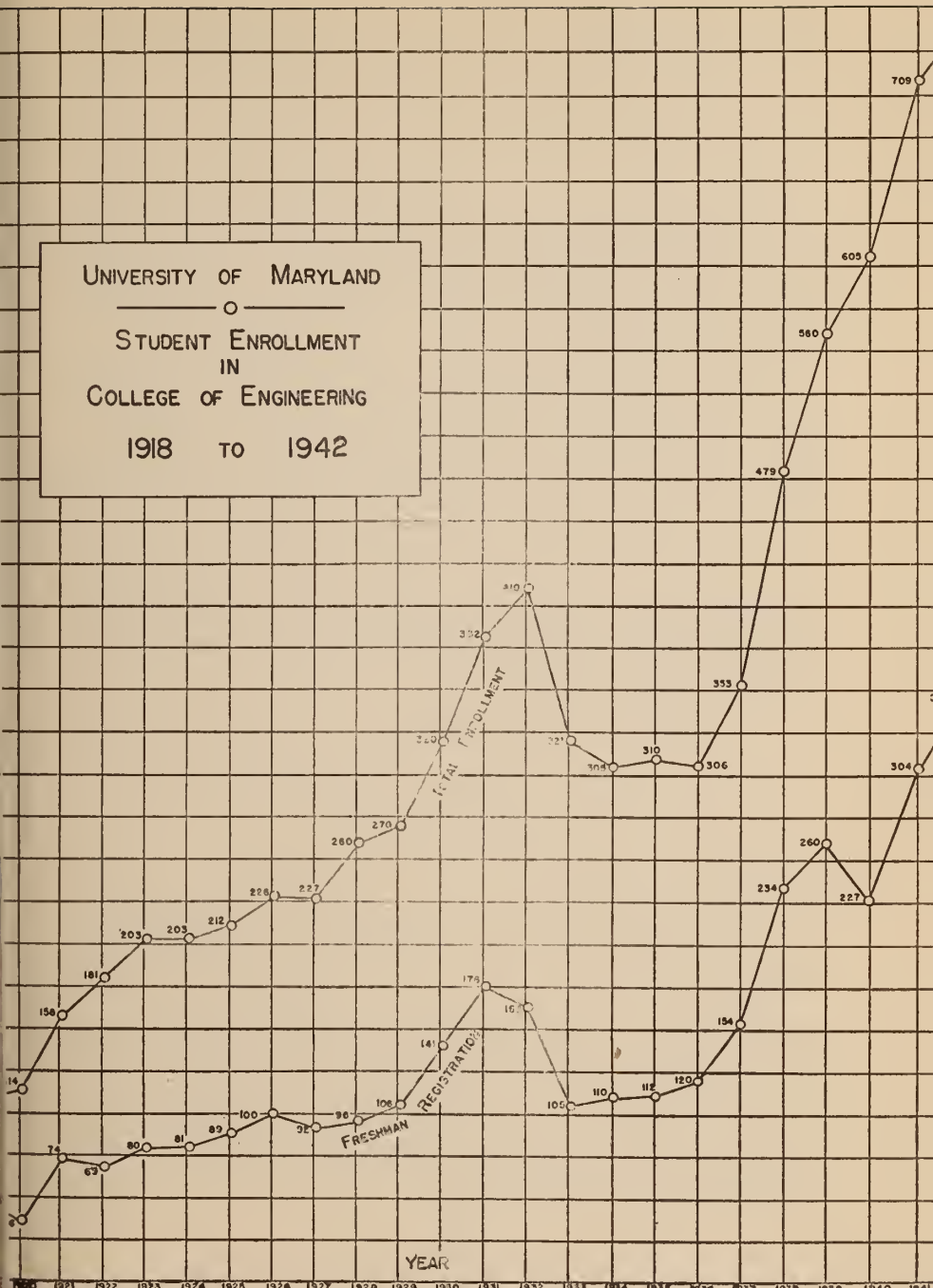
Closer contacts have been made with the Western Electric Co., the General Electric Co., the Consolidated Gas Electric Light and Power Co., and the Potomac Electric Power Co.

DEPARTMENT OF MECHANICAL ENGINEERING

The developments in this department were particularly related to war work. These included the completion of the aeronautical laboratory, the conduct of research projects on welding, on riveting, and on steel tubular structures with the National Advisory Committee on Aeronautics, and the establishment on our campus of the headquarters for the Aviation Division of the American Society of Mechanical Engineers with Dr. J. E. Younger, Chairman and Professor of Mechanical Engineering, as Permanent Secretary.

In cooperation with the Summerill (Aircraft) Tubing Co. of Bridgeport, Pa., the department cooperated in the production of an engineering handbook for use by the aircraft industry.

The civilian pilot training program for instruction of enlisted personnel to become flyers for the Army and the Navy has been continued. During


UNIVERSITY OF MARYLAND
STUDENT ENROLLMENT
IN
COLLEGE OF ENGINEERING
1918 TO 1942
TOTAL ENROLLMENT
FRESHMAN REGISTRATION
YEAR
1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941
709
609
560
479
353
306
310
304
321
332
340
270
260
227
228
212
203
203
181
158
14
74
63
80
81
89
100
96
98
108
141
176
163
105
110
112
120
154
234
260
227
304

the past two years more than 500 students have been trained for active duty under this program.

FIRE SERVICE EXTENSION DEPARTMENT

Due to war activities, this department has extended its contacts in many directions.

Chief J. W. Just, the Director, was named State Fire Coordinator. His other appointments include that of Regional Training Adviser for the Office of Civilian Defense, Fire Coordinator for the Washington Metropolitan Area, Vice-Chairman of the Committee on Fire Training for the National Fire Protection Association, as well as a member of their Farm Fire Protection Committee.

The fire service extension instruction has been improved and enlarged and the three regional instructors have been given additional teacher training work at the Pennsylvania State College. Through the courses made available by this department throughout the State 9,000 persons were trained during the last two years, including volunteer firemen, industrial firemen, deputy state fire marshals and air raid wardens.

MINING EXTENSION CLASSES

These classes, held in cooperation between the College of Engineering, the Maryland Bureau of Mines, the State Department of Education and the County Boards of Education of Allegany and Garrett Counties, continued in the western part of the State.

The Graduate School

C. O. APPLEMAN, *Dean*

DURING the difficult times of the biennium the graduate work of the university maintained its usual high standards and along certain lines made definite progress. Only three departments were obliged to curtail somewhat their graduate work because of military service of important members of the faculty.

Most of the graduate students who were candidates for higher degrees to be conferred during the biennium were able to obtain deferment until they completed the requirements for the degrees sought. Only four students were called for military service before they were able to complete the requirements for the degree as anticipated during the biennium. Of the twenty-eight men who received the Ph. D. degree in 1942, seven are now in military service and at least seven hold important positions in defense industries and other defense agencies.

During the biennium one hundred three masters' theses were approved. These were distributed among twenty-three departments. For the same period fifty-nine dissertations were approved in partial fulfillment of the requirements for the Ph.D. degree. These dissertations were prepared under the direction and supervision of eighteen different university departments, including four departments in the Baltimore schools.

These theses and dissertations deal with a variety of topics in the physical sciences, biological sciences, social Sciences and the humanities. Special emphasis is given to fundamental problems in heredity, animal nutrition, mineral nutrition of crop plants, conservation of food products, and the synthesis of new organic substances, some of which are important in the treatment of disease. A number of theses are of direct interest to the state. Most of the theses in Education deal with important problems in public education. A number embody economic studies of Maryland industries. Other theses deal with Maryland history, Maryland water resources, conservation of Maryland soils, labor problems, plant disease and insect control of Maryland crops. None of the theses for the biennium are concerned directly with the war effort, but many of the problems investigated are closely related to national defense. Twenty of the theses deal with problems of food production and food conservation. A number are concerned with problems of nutrition and public health. Some of the theses in chemistry, mathematics, engineering, and psychology have an indirect bearing on national defense and the war effort.

Courses numbered from 200 to 299 are for graduates only. The following departments during the biennium were able to increase substantially their offerings of graduate courses: Engineering, Education, English Language and Literature, Mathematics, Modern Languages, History, Political Science, and Sociology. The Department of Modern Languages and the Department of English cooperated in offering five new graduate courses in Comparative Literature.

The number of graduate assistants and fellows and their classification according to source of support and chief function are given in the following table:

	1940–1941	1941–1942
Teaching Graduate Assistants	24	33
Teaching Fellows	26	17
Experiment Station Research Assistants	15	15
University Research Fellows	13	11
Industrial Research Fellows	9	7
Bureau of Mines Fellows	2	1
Fish and Wild Life Service Fellows	5	4
U. S. Soil Conservation Assistants	2	2
National Research Council Fellows	2	....
International Cancer Foundation Research Fellow	....	1
	98	91

The purpose of these graduate assistantships and fellowships is not to help a boy or girl to obtain advanced training but to encourage the superior students to continue with graduate work and prepare themselves for the higher positions in the field of education, and for important research and technical positions in the federal and state governments, state agricultural experiment stations, industrial laboratories, and private research agencies. One of the chief functions of the Graduate School is to prepare men and women for research and productive scholarship. While the graduate asistants and fellows are getting their training they are rendering efficient service at low cost to the university in connection with its teaching and research programs. The student is also getting valuable practical experience for his future professional career.

The total net enrollment of 819 for the year 1940–1941 was the largest in the history of the Graduate School. The enrollment for the year 1941-1942 was about the average for the previous biennium. The enrollment for both years is given in the following table. The totals include students in the Baltimore schools and also part-time students in both day and night classes. The table also gives the number of degrees that were conferred during the biennium.

ENROLLMENT

	1940–1941	1941–1942
Regular Academic year	557	461
Summer Session (1940)	360	(1941) 311
	917	772
	917	772
Less duplicates	98	100
Net total for year	819	672

DEGREES CONFERRED

Doctor of Philosophy	29	30
Master of Science	33	26
Master of Arts	31	13
Master of Education	27	22
Total	120	91

The College of Home Economics

MARIE MOUNT, *Dean*

IN 1940 the home economics faculty began to modify the home economics courses to meet demands that would fall on home economics education should a war come: demands created by a war time economy and difficult family adjustments.

At this time the federal government began its program of better health through better nutrition; the Land Grant College of each state was asked to initiate a state nutrition program by appointing a committee on nutrition. Representatives from the agencies of health, education and welfare of Maryland were appointed to this committee with the Dean of Home Economics as chairman.

The activities connected with this state wide nutrition program and the adjustment of home economics courses to war needs represent the major portion of the report of the College of Home Economics.

Foods and Nutrition

When food becomes scarce and when the home maker assumes more responsibilities outside the home food practices must change: home grown and preserved food become necessary; food must be prepared simply, emphasizing the economy of nutrients and fuel; food alternates must be used; also local foods to save transportation; food must be purchased carefully to stretch the food budget. Since the home economist must help the family to solve such problems, her education must include this training.

That students in other colleges within the university may have training in foods and nutrition, this department now offers elementary courses in foods and nutrition without the usual prerequisite of chemistry.

This department has accomplished some outstanding things in connection with its nutrition program: a study of the dietaries of four fraternities and four sororities was made in 1941 with suggestions for improvement.

A cooperative project was conducted with the Bureau of Home Economics on the university campus. Students were furnished food on a dietary low in vitamin A in exchange for their cooperation. The aim of the experiment was to determine the length of time before detection of the symptoms of the lack of vitamin A in each person by the use of the Hecht-Adoptometer. Two home economics graduate students are using the material for theses.

At student request, a nutrition program for the student body has been organized by a home economics graduate student: exhibits, moving pictures, literature, lectures, nutrition advice and a nutrition column in the student paper.

A popular bulletin on the principles of nutrition, by Mrs. Claribel Welsh, was published for State use by President H. C. Byrd.

Miss Mary Kirkpatrick of this department collaborated with Dr. Florance King of the Bureau of Home Economics in writing a foods preparation manual, which is in use by many of the college home economics departments.

A short conference on food conservation for teachers was held at the university in June, 1942.

Textile and Clothing

In textiles the emphasis is on: knowledge of new substitute materials; careful purchase and care of household textiles to prolong their life.

The increased cost of ready to wear clothing, the scarcity of materials, and the decreasing family clothing budget have combined to put more emphasis on clothing construction and tailoring; on remodeling clothing (many civilian suits and overcoats of men now in service can be made over for women and children); and on care and upkeep of clothing to prolong its life.

Practical Art

In 1941 the art courses were organized under the Practical Art curriculum, with two majors—costume design and interior design. The majority of Practical Art graduates enter the merchandising field. The department stores of Baltimore and Washington have been most cooperative in loaning merchandise for class use in decorating the five display windows in the home economics building. The seniors get their store experience and find employment after graduation in these same stores.

Home Management

The aim of home management education is: to so blend the management of the family with the management of household routine that happiness and success for the members of the family result.

In the home management house practical application of food and nutrition teaching is made in the preparation and serving of both low cost and high cost menus.

With the scarcity of many articles of equipment it is necessary that students in the home management house get actual experience in repair and care of furnishings and equipment.

Services

The College of Home Economics has given the following services upon request: to Baltimore teachers (1941-42) courses in Consumer Textiles, Nutrition and Home Management; to women leaders in Baltimore, a course in Nutrition; to Washington teachers a course in Nutrition; to women's clubs, to Parent-Teachers Association talks on textiles, clothing, foods, nutrition, and art in the home. The University School of Dentistry has added nutrition to its curriculum (one of the few to do so) taught by the head of Foods and Nutrition in the College of Home Economics.

Committee on Nutrition for Maryland (A sub-committee of the State Defense Council)

This committee has accomplished the following: made a survey of all nutrition programs in the state, made certain recommendations for their

expansion; arranged a survey questionnaire for use by county nutrition committees with a personnel similar to the state committee; organized a similar committee for Baltimore; appointed sub-committees of the state committee on school lunch, nutrition for colored people, nutrition literature to be used, nutrition in industry, publicity, radio, and finance.

The committee held a nutrition conference at the University in November 1940 with 100 in attendance; 5 institutes (1 for colored teachers), covering the state were held in 1942. Representatives of education, health and welfare attended.

Mrs. Welsh prepared a booklet of questions and answers on nutrition which was adopted by the 2 supervisors of home economics education in Baltimore and in the counties, as official; Miss McPheeters prepared pamphlets on foods to be used daily. The committee worked with Dr. Wallace Page (Maryland Academy of Sciences) on a pamphlet, "Food is Defense".

The state committee working with the federal nutrition organization selected Cecil County as a demonstration center. Five members of their county committee, including their co-chairmen, attended the nutrition workshop held at V.P.I. (expenses paid by federal government) July, 1942. This county is developing an excellent program.

College of Business and Public Administration

J. F. PYLE, *Dean*

THE name of the former College of Commerce was changed, during the summer of 1942, to the College of Business and Public Administration. The new designation indicates and emphasizes the new role the College is expected to play during the war period and throughout the post-war era. The revised organization, the rearranged and extended curricula, and the changed personnel are designed to stress the study and teaching of the principles, procedures, and practices of *Administration*. The rapidly accumulating knowledge concerning management, organization, policies, and procedures is making it both logical and desirable to regard the practice of Administration as a profession. Since the fundamental principles and practices of Administration are universal it is logical that they be taught in a specialized college. The current trend in this direction on the part of American universities indicates the rather belated recognition of the soundness of this point of view. Business Administration and Public Administration are fundamentally quite similar. Public employees are better prepared for their executive tasks when they have completed a thorough course in administration. Much of their governmental work is likely to be connected with business activities. Many business executives have close relations with governmental agencies. It is natural, therefore, that students who expect to find employment in either field should be trained in the same environment.

The College of Business and Public Administration has reorganized and strengthened the division of Economics so as to supplement the divisions of Business Administration and Public Administration. These three fields of activity are very closely related and quite interdependent. The recently established division of Secretarial Training has been revitalized and extended to meet the increasing demand for adequately trained secretarial personnel. This College is cooperating with the College of Education in developing an effective commercial teacher training program.

The future program calls for close cooperation with business firms in the fields of finance, marketing, personnel, production, and accounting. Problems of organization, policy, procedure and general management may be attacked from the broad viewpoint of Administration in a way that will be of mutual benefit to business firms and to the students of the College.

A number of contacts have already been made with various governmental units. It is expected that contacts of this nature will eventually lead to a better understanding of the needs of the various governmental units and of the desirability of adequate professional collegiate training for effective administration. The problems of governmental administration have hitherto received little attention in university curricula. The favorable location of the University of Maryland presents a good opportunity to render a needed public service.

Present plans provide for the development of a strong division of International Relations, Trade and Finance to meet the demand of the post-war period. This division will be closely coordinated with the Department of Human and Natural Resources. The latter division will emphasize research in the resources of the major geographical areas of the world. The College of Business and Public Administration is an integral part of the Geo-Political Institute. An extended program of graduate work in Economics, Business and Public Administration, Economic Geography, and Foreign Trade is being prepared. The University of Maryland should become an outstanding public agency for graduate work in these fields. The full development of this program, however, will doubtlessly have to be delayed until the end of the present war.

Research has not been carried on in a way that the location and standing of the College warrants. This deficiency is due, largely, to lack of Physical space and equipment and to the heavy teaching load of the faculty. The program for the future envisages an active and effective Bureau of Research which will study the problems of business and government. The program of development has, obviously, been slowed down due to the uncertainties of the war period. Adjustments in curricula have been made in a number of instances to meet current needs. Other adjustments are contemplated as the exigencies of circumstances demand.

The present faculty of the College of Business and Public Administration is, on the whole, strong and experienced. A number of the men have had either business or public experience and some have had both. The full pro-

gram of development will require the addition of: a professor of industrial management, a good man in charge of personnel administration, a specialist in public administration, a professor of foreign trade, and a professor of international economic relations. A properly qualified man might, in the beginning, handle foreign trade, international finance, and international economic relations.

School of Medicine and University Hospital

ROBERT U. PATTERSON, *Dean*

THE developments in the Medical School and in the University Hospital during the past two academic years have all been influenced, and in some instances, determined by the effect of the war. The number of students has remained approximately the same, i.e., an average of 370 in the Medical School. The large majority of the students were prepared in the University of Maryland at College Park, but there have been representatives from 30 states and several foreign countries. The operation of the Selective Service has not resulted in any depletion in the number of students because of special arrangements whereby medical students are deferred from service to take a medical education in the interest of the National Welfare, duly recognized by the Selective Service. All able-bodied male students apply for and accept commissions in the Army or Navy, and will not be called upon by those services for active duty until after graduation followed by one year internship in an approved hospital.

Graduates of the School have continued to obtain internships in excellent hospitals throughout the country. The record of graduates of our Medical School before State Examining Boards for licenses to practice has been most gratifying, and the percentage of failures is much below the average for other schools of the country. The Admissions Committee, by a careful and just evaluation of the qualifications of applicants, has been able to select well-qualified students who show evidence that they will be able to profit by a medical education. At the end of the biennial period, there were 45 Professors, 267 Associates and Assistant Professors on the rolls of the Faculty or a total of 312. The Faculty lost seven of its membership by death during the biennium.

One hundred thirty-five members of the Faculty are now in the military or naval services on active duty. Lists of "essential" members of the Faculty and the staff of the hospital are furnis hed every six months to the Procurement and Assignment Service with Headquarters in the Man-power Commission in Washington. The Chairmen under this service for the Third Service Command, U. S. Army, and the State Procurement and Assignment Officer, are both members of the Faculty of this School. The Chieftan-

ship of the Emergency Medical Service of the State of Maryland and Baltimore City is occupied by a member of this Faculty.

In common with other schools, our school schedule is now upon an accelerated basis *for the duration* necessitating entrance to the School and graduation at different dates than formerly.

Two General Hospitals (respectively No. 42 and No. 142, U. S. Army) have been organized from the Faculty of the Medical School and are now in active service in the war zone in the Southwestern Pacific.

Fellowships and Grants have been made to provide opportunities to physicians and students desiring to prosecute researches in Anatomy, Histology and Embryology, Gynecology, Neuro-Surgery, Physiology and Surgery to a total value of $18,200. The Medical Alumni Association donated $1,200 to the School of Medicine for four years' free schooling at $300 per year. The Graduating Class of 1940 donated $126 and the Class of 1941 gave $150 for scholarship aid.

The opening of the Bressler Research Laboratory Building in May, 1940, was the greatest event of the biennium. This building provides for the proper housing of the Departments of Anatomy, Histology and Embryology, Pharmacology, Physiology and Clinical Pathology, and facilities for teaching and the prosecution of scientific research. Quarters for animals needed for scientific purposes and in the teaching of operative surgery, also a lecture hall and a memorial hall are included in the building.

The Dispensary or Out-Patient Department has been fully utilized by the public. More than 101,000 cases were treated during the last year.

Gifts and bequests to support scholarships and Fellowships and for specific research projects to a value of approximately $45,000 were made during the biennium. While not available for the support of the institution they are of the greatest value in fostering scientific work, and in helping to maintain high standards in the medical educational world.

The Obstetrical Service of the University Hospital has been greatly taxed and the demand for obstetrical beds is steadily increasing. There is a need for more maternity beds in the hospital. The demand upon the "home delivery" service has become greater than in previous years. The need for more obstetrical beds in hospitals is the most pressing question for all hospitals in Baltimore at the present time.

In connection with the Medical School, on account of the limited appropriations for its support granted by the State, the School has been obliged to supplement the State appropriation by every legitimate means. The result has been that tuition fees are higher than in other State university medical schools, and are on a level with the most expensive private institutions.

Often well-trained students are excluded from the School because they are unable to meet the high tuition fees. It is hoped that the Legislature will

be convinced that they should provide more adequate support for the Medical School so that tuition fees may be reduced to reasonable proportions, and the salaries of full-time and part-time teachers be raised to a level which will enable the School to compete more successfully for teachers with other schools from time to time.

Like the Medical School, the Hospital also is inadequately supported by the Legislature. The hospital has to depend upon fees from private and semi-private patients and from other sources to raise more than 83% of its estimated budget annually. The percentage of the budget which the State furnishes is much below what is customary in other State university hospitals of the country. It is important that appropriations be gradually increased by the Legislature until at least 40% of the estimated budget will come from that source. With a more secure and dependable financial background, both the Medical School and the University Hospital will be able to continue to maintain progress, and enhance the excellent reputation these institutions now have in the medical world.

The School of Nursing and Nursing Department

ANNIE CRIGHTON, *Director and Superintendent*

THE work of the Nursing School and Nursing Department during the past two years has been concerned largely with obtaining and retaining an adequate nursing and auxiliary personnel and, at the same time, sending nurses to our fighting forces.

How is our hospital to carry on its service to civilians, so essential in "total war," when personnel is continually being drawn off? This appears to be our chief concern at this time and will be for some time to come.

We have attempted to gear the hospital routine to conserve professional skills for the tasks that absolutely require them, through the use of more trained volunteer aides and auxiliary workers. We have also found a number of graduate nurses who have retired to marry, or to go into other work, who stand ready to answer an emergency call. Most important is the student enrollment which has been built up and upon which we must rely for the greater part of nursing services.

Some salary adjustments have been made but with the increased cost of living and competition with government and defense agencies, more must be done regarding salaries, hours of duty, and living conditions which are necessary to hold nurses in their present positions and to attract students for this profession. It is important that a well prepared staff remain if we are to speed up the curriculum and to teach more students, who are replacing the general staff nurses who enter military service.

We recognize that more and more auxiliary workers, volunteer and paid, must be used and must be trained.

We are one of the two hospitals in the city selected for the training of the Red Cross Volunteer Aides and have been permitted to retain 50% of the number trained, but it is far from a sufficient number. This group has been of great assistance as the number of paid workers has diminished and continues to do so.

With the increased enrollment of students many problems are presented, mainly those of class room and laboratories, and recreational facilities. The maintenance of an adequate and well prepared teaching and supervising staff is of great concern due to the fact that we are depending upon a less experienced personnel not only for nursing services but for all types of hospital services.

At the present time, the curriculum is being revised to meet the war time needs, and to consider the possibility of reducing it to thirty, twenty-eight, or twenty-four months depending upon the education a student has had previous to entering the school. This plan is in accordance with the recommendations of the National League of Nursing Education.

While Federal funds are available for increasing the number of students we are unable to obtain this due to the lack of necessary housing, teaching, and laboratory facilities which require building or reconstruction.

Through the generosity of the W. K. Kellogg Foundation a Loan Fund of $4,000.00 for students was granted to the School of Nursing.

The clinical facilities are adequate to accommodate a school of 240 students, graduating eighty each year. Our largest class to date is sixty students and each class should be eighty, but is limited because of physical handicaps.

One of our greatest needs is strengthening the Public Health instruction and practice for all students. Only a few selected students have had the privilege of this experience made available in the Western Health District through the kindness and cooperation of Dr. Huntington Williams, Commissioner of Health of Baltimore City. We have been advised by Dr. Williams that his department can no longer supply this instruction and the affiliation is to be definitely terminated at the close of this school year or earlier if we can make the necessary adjustment. At this time of war and during the days of reconstruction when civilian needs are great it would be inadvisable to permit this experience for our students to lapse. Another phase to be considered is that the student, in making a choice of a school of nursing is selecting the one which offers this experience so that she will be prepared to meet her full responsibility as a graduate nurse.

With a full time Public Health Nursing Instructor, which we do not have on our staff, it would be possible to develop a good teaching program in

Public Health Nursing in connection with the Out-Patient's Department and to integrate public health throughout the entire curriculum.

This is an urgent and necessary need and should be met immediately. Student enrollment has increased as follows:

February	1940	104 students
"	1941	126 students
"	1942	142 students
October	1942	164 students

There are fifty-four of our graduate nurses in military service within this country and abroad and they are constantly leaving us for this most essential service which they are prepared to give.

The School of Law

ROGER HOWELL, *Dean*

LIKE every law school in the country, the Law School has been very seriously affected by the impact of war upon its registration. Even prior to the outbreak of the war this was true, law students as a group being more subject to the Selective Service Act than students in any other department of the University; they were practically all within the prescribed age limits, were not accorded deferment on the basis of their studies and only infrequently had other grounds for deferment. Using as a norm the registration figures for September, 1938, figures recently released by the Section on Legal Education of the American Bar Association covering the 110 law schools now on its Approved List show their total registration dropping from 28,174 to 18,449 in September, 1941, and to 7,887 in September, 1942—that is, the average law school complying with approved standards of legal education had something less than 28% of its normal enrollment at the beginning of the present school year.

By comparison, we have lost less than the average law school, our September 1942 enrollment being 42% of normal. In fact, of the 36 State University Law Schools, only three (the University of Michigan, the University of Minnesota, and the University of Texas) had larger registrations numerically at the beginning of the present school year.

However, there has been a very considerable further loss of students to the Armed Forces since September. And there can be little question but that a further loss in enrollment must be anticipated, particularly in view of the lowering of the draft age to 18.

Faculty

Three of the seven full-time members and one of the part-time members of the faculty have been granted leaves of absence for the duration of the

war; Professor Reno was ordered to active duty as a Captain in the Field Artillery, Professor Invernizzi and Mr. Gump as Lieutenants (j.g.) in the Navy; Professor Arnold is serving as State Price Attorney for Maryland in the OPA. The faculty also lost one of its ablest and most loyal members through the death in July, 1941, of Mr. Walter L. Clark of the part-time staff.

Professor F. W. Invernizzi has served during the past year as Secretary of the Commission appointed by Governor O'Conor on the Revision of the Judiciary Article of the Maryland Constitution. Emory H. Niles, of the part time faculty, has been in charge of the gas and tire rationing program of the OPA in Baltimore. Dean Howell was a member of the Committee on War Emergency Legislation appointed by the Governor.

Professor R. R. Reno, prior to entering military service, completed the Maryland Annotation to Volume 1 of the American Law Institute Restatement of the Law of Real Property, upon which he has been engaged for several years; he was assisted during the past year by Mr. Merton S. Fales, of the class of 1941, who will continue with the work on Volume II during Professor Reno's absence.

Both full-time and part-time faculty members, in spite of heavily increased teaching loads, have as usual published various articles in legal periodicals during the past biennium and have continued to participate actively in Bar Association and Law School Association Committee work.

Curriculum

In the last report, attention was directed to the need of expanding and developing the law school curriculum, particularly in the field of public law. While the need continues and has been enhanced by the wartime expansion of governmental activities, curtailment of income and loss of faculty members have made impossible any particular revision or development of the law curriculum. It goes without saying that the post-war period will necessitate much thought upon this point.

To enable students to progress as far as possible with their law studies before entering military service, a summer semester has been added to the regular school year, enabling students to accelerate the total time required for graduation by as much as one year; approval for such acceleration of the normal course was obtained from the Court of Appeals and the State Board of Law Examiners. All members of the full-time staff taught during the summer session without additional compensation.

Publication of the Maryland Law Review has been continued, in spite of difficulties caused by loss of student editors to military service, which have caused the suspension of law reviews in some other American law schools. The December, 1941, issue of the Review was devoted to a symposium on the new Maryland Rules of Pleading and Practice, while other

issues, as in the past, have been concerned principally with articles and case comments dealing with matters involving Maryland law and of particular interest to the Maryland bench and bar.

Future of the Law School

It is everywhere recognized that the future of all legal education in the United States is one attended by extreme danger and difficulty. At the same time, the need for legally trained men is acute as never before. We have been unable for the past year to fill many requests from law offices in private practice for office associates. The large casualty companies are advertising for men for their legal staffs. In the government service, the demand is constant and pressing, since the successful administration of a wartime controlled economy is dependent upon men with sound legal training. It is inevitable that this need will continue unchecked and enhanced during the war and in the post-war period. It would seem most important therefore that the law schools be kept in operation, difficult as this may be. It is particularly important in our own case, since the Law School is the only institution in Maryland meeting prevailing standards of proper legal education. To enable it to survive, an increase in State appropriations sufficient to offset the loss of revenue from student fees is very obviously essential.

School of Dentistry

J. BEN ROBINSON, *Dean*

THE enrollment in the Dental School in the four years immediately preceding 1940, was greatly reduced by the advancement, in 1936, of preprofessional requirements from one year to two years of college work. During the two years of the biennium just ended, there has been a gradual increase in student enrollment that has restored the total attendance nearly to that of former years. The increase in over-all enrollment during the past two years has been about twenty-six per cent. This growing enrollment indicates an early return to peak numbers of past years.

The demands that are being made on the youth of the country to provide adequate numbers to meet procurement objectives of the armed forces have not disturbed the enrollment of students in the dental schools. Early in the emergency dentistry was declared by Selective Service to be an essential occupation; dental students were placed in a preferred group and were deferred by local boards until such time as they could complete their education. This provision for continuing the flow of dental graduates into the ranks of the armed forces has been salutary. During the past two years it has been necessary to expand the Dental Corps of the Army and the Navy in order to rehabilitate those dentally defectives who have been in-

ducted into the services and to fit them for active duty in foreign theatres of operations; this expansion of the Dental Corps has been facilitated greatly by the addition of numbers of graduates in the 1941 and 1942 classes that have been commissioned in the services. More than ninety per cent of the graduates of the 1941 and 1942 graduating classes of the Dental School entered the Army, the Navy or the United States Public Health Service.

Many teachers in the Dental School have volunteered their services to the armed forces, or, as reserve officers, have been called to active duty. Twenty per cent of the teachers, as of December 7, 1941, are now officers in some branch of the armed services. Some are in the Dental Corps of the Navy, the greater number is in the Dental Corps of the Army, six accompanied the University Hospital Units, while one is serving as chief dental officer of one of the Johns Hopkins Hospital Units. Because of the critical shortage of dentists and the reluctance of those remaining in private practice to abandon a part of their work for temporary teaching appointments, it has been impossible to secure substitute teachers to fill all vacancies that now exist; only one full-time teacher has been added to the staff. In the circumstances, it has been necessary for the remaining members of the teaching staff to assume additional responsibilities and to devote more time to classrooms, laboratories and clinics than is usually regarded as productive of acceptable instruction. While the needs of the student are being cared for creditably, it cannot be denied that much of value is lost to the student because of the additional stress on teachers resulting from their having assumed responsibilities over their normal teaching loads.

The enormous expansion of the Army and Navy has made an unprecedented demand on the profession to supply dentists in sufficient numbers to provide dental services to these large bodies of enlisted men. In order to meet satisfactorily the situation and to maintain in private practice an adequate number of dentists to serve the civilian population, it became necessary to step up the number of graduates from dental schools. Conforming to this program the Dental School adopted, June 1, 1941, an accelerated program of instruction that insures the completion of the four required academic years in three calendar years, thus saving one full calendar year in time and hastening the entry of dental graduates into active military service. The Army and the Navy have cooperated by offering reserve commissions to all physically fit students. It is gratifying to report that all physically fit students in the Dental School are now commissioned as second lieutenants in the Army or as Ensigns in the Navy. Because of the program of acceleration two classes will graduate in 1943 of which all students now hold reserve commissions in one or the other branch of the armed fo ces.

In spite of heavy teaching responsibilities the instructors who remain at their posts have been most active in contributing to the war effort. While all have participated in war activities, some have done outstanding special work. One instructor has cooperated with the effort of the A. D. A. to establish a rational state quota system of choosing dentists for service under the Procurement and Assignment plan, in listing by locations, by age

and by special qualifications *all* dentists practicing in Maryland. This roster is now being used by Procurement and Assignment in its selection of dentists in Maryland judged to be available for military service. Another has cooperated with the Bureau of Standards in developing certain materials to be substituted for those normally used in dental practice in order to suspend the manufacture of standard products which require in manufacture large quantities of critical materials. Another teacher has served on the War Service Committee of the A. D. A., which has functioned as a liaison between the profession and the many Government agencies in their efforts to adjust manpower, to allocate critical materials, to distribute supplies, and to provide relief to areas where critical shortages of civilian dentists exist. The Dean has served as advisor to Selective Service; as advisor to the Surgeon General of the Army in the allocation of critical materials used in dental practice; on a special committee appointed by Secretary Stimson to survey the adequacy of the facilities of the Surgeon General's Office to meet the demands of the war effort; and as advisor to the Surgeon General's Office in preparing basic educational requirements for medicine, dentistry, veterinary medicine and sanitary engineering in the new Army Specialized Training Program.

The curriculum in the Dental School has been adjusted to war-time needs by placing greater emphasis on those phases of instruction which are of most value in preparing the graduate to participate more effectively in essential war activities. While the plan of instruction followed in the dental schools has been altered in order to produce a better military dental surgeon, the course continues basically the same and will enable graduates to meet capably all duties of the dentist in the post-war period.

The School of Pharmacy

A. G. DuMEZ, *Dean*

Enrollment

THE war has apparently had but little effect up to the present time upon enrollment in the School of Pharmacy. During the academic year 1941-42, seven students were lost—four due to the operation of the Selective Service Draft and three due to voluntary enlistment.

What effect the lowering of the draft age will have upon our enrollment is yet to be determined. Definite plans have not yet been worked out by the War Manpower Commission and the Selective Service Draft office. Last week when I attended a conference with Dr. Elliott, Chief of the Division of Professional and Technical Personnel of the War Manpower Commission, I was informed that all of our male freshmen and sophomore students, who are physically fit, might be called into the service shortly after

the first of the year, that these students would be given thirteen weeks of Army training and that those who were able to pass certain screening tests would be permitted to return to college to complete the course. It was further stated that all students who had enlisted in the Reserve would be called into the service regardless of the length of time they had attended college. Should these measures be put into effect, our enrollment would be reduced by more than one-half and a serious situation with regard to finances would be created.

Changes in Faculty

With regard to changes in faculty, the war has also had but little effect up to the present time. There were seven resignations among the teachers in the lower ranks and six appointments to fill vacancies in 1941. In 1942, there were ten resignations in this group and nine appointments to fill vacancies. A directive has been issued by the Selective Service Draft office suggesting to local draft boards that teachers in certain subjects be deferred. This directive includes practically all of the teachers in the subjects included in the pharmaceutical curriculum so that little trouble is anticipated in holding our teachers with the rank of instructor or above. It may well be, however, that we will have difficulty in the future in holding the teachers in the ranks lower than instructor and in replacing those who resign.

Accclerated Program

The School began the accelerated program for pre-dental students in June, 1942. Students in this group who have done satisfactory work will complete the course in January, 1943, after which no more pre-dental students will be accepted. The accelerated course for pharmacy students began October 2, 1942. The students who are now seniors will graduate in May, 1943.

Under the accelerated program, there will be three sessions of approximately four months each per year, thus permitting students to complete the ordinary four year course in thirty-two months. It is planned to take only one entering class per year, that is, in the Fall. However, consideration will be given to taking a second entering class in February, provided there are sufficient applications to justify this procedure.

Curriculum

There have been no important changes in the pharmacy curriculum in the past two years, except a few which were made to strengthen the course in graduate instruction. It may, however, become necessary to make some changes in the undergraduate curriculum in the near future if the Selective Service Draft office insists upon it. It seems that it is the desire of the latter office to reduce all professional courses in length to a maximum of twenty-seven months. We are at present operating on a thirty-two months basis and believe that it would be unwise to shorten the time further because of the inadvisability of granting a bachelor's degree for a course of shorter length. If, however, it becomes necessary to shorten the course to meet the

Selective Service Draft requirement, a number of changes will have to be made in the curriculum. In this event, only such changes will be made as have received the approval of the American Council on Pharmaceutical Education.

War Work

The School of Pharmacy has no direct contacts with Government departments, but it may be requested in the near future to collect all surplus stocks of quinine salts in the State if present plans of the War Production Board are made effective and several members of its faculty are engaged in work which has for its objective the promotion of the war effort, viz.:

The Dean is a member of a liaison committee which is cooperating with the War Manpower Commission to work out a program for pharmaceutical education. It is also probable that this committee will be asked to serve as a national advisory committee with reference to the procurement and allotment of pharmacists throughout the nation. The Dean is also serving on a state committee of pharmacists which acts in an advisory capacity to the State Occupational Advisor of the Selective Service Draft office. This committee passes on all requests made by pharmacists in the State for deferment. In addition, he is serving as the chairman of the War Emergency Advisory Committee of the American Association of Colleges of Pharmacy.

Dr. Thomas C. Grubb is serving on a committee of the Emergency Services of Civilian Defense, which has for its objective the collection of blood for obtaining blood typing serum. Dr. Grubb has already collected blood from most of the pharmacy students for this purpose.

Dr. Walter Hartung supervised the preparation of eight stilbazoles by one of our graduate students. This work was completed last Summer and these compounds are now being tested by a committee of the National Research Council to determine if they have any anti-malarial activity. In addition, Dr. Hartung is directing a number of other research projects which have a more or less remote connection with the war effort.

Dr. C. W. Chapman is acting as a consultant to the Food and Drug Administration and as a member of several committees which have to do with the standardization of official drug products. As a member of the Revision Committee of the Pharmacopoeia, he is constantly called upon to investigate methods of making biological asseys of products required by our armed forces.

For the past year, the School of Pharmacy has given permission to various pharmaceutical organizations to hold classes for instruction in first aid in its building and most of the members of the teaching staff are serving in various capacities in one branch or another of Civilian Defense.

The University Libraries, 1940-42

To the President of the University:

SIR:

I have the honor to present a report on the work of the University Libraries for the biennium ending September 30, 1942. In a world torn with war and its effects it is gratifying to report some progress along normal lines together with new developments to meet changing needs.

Administration

A significant change in administrative organization took place on Janary 1, 1941, when Miss Thelma Wiles was transferred from the General Library at College Park to the position of Librarian of the Dental-Pharmacy Library in Baltimore. At the same time Mrs. Clark, Cataloger in the Pharmacy Library, added cataloging for the Dental Library to her duties. These steps formalized an informal cooperation extending over a period of time and strengthened the idea of a University Libraries system. The results of the change have been most gratifying and serve to point the way for further steps in this direction.

The Organization Charts in the Appendix to this report illustrate in a graphic fashion the changes referred to above.

The Book Collection

Acquisitions

The number of volumes acquired during the biennium was 18,295, a decrease of 6.9 per cent over the preceding period (1938/39–1939/40). Accessions at College Park were 3.4 per cent fewer while those in Baltimore dropped by 14.5 per cent. There was a marked decrease; namely, 56.8 per cent, in the number of volumes added by the Law Library. Figures by libraries are presented in Table I. Outstanding among our acquisitions were the Waite and Piperno Collections for the Dental Library and the Kach Library, containing many important volumes on pharmaceutical botany, for the Pharmacy Library. Mr. Arturo J. Casanova, of Washington, D. C., donated some 1,500 volumes to the General Library at College Park. Included among them there were several sets of works of standard authors and a number of bound periodicals.

TABLE I

College Park	1940/41	1941/42	Total
General Library	6,947	5,963	12,910
Baltimore			
Dentistry	821	777	1,598
Law	483	365	848
Medicine	597	854	1,451
Pharmacy	925	563	1,488
Total—All Libraries	9,773	8,522	18,295

Stock

On September 30, 1942, volumes available in the University Libraries, after adjustments caused by the withdrawal of worn and discarded books, totalled 159,379. This represents an increase of 16,499 volumes, or 11.5 per cent, in our holdings since October 1, 1940. Table II shows the number of volumes in each library.

TABLE II

College Park	
General Library	101,041
Baltimore	
Dentistry	9,192
Law	18,080
Medicine	22,115
Pharmacy	8,951
Total—All Libraries	159,379

Cataloging and Classification

College Park

This important phase of library activity continued at approximately the same level as in preceding years in spite of numerous personnel changes and the difficulties attendant thereon. Summarized statistics of work performed is given in Table III.

TABLE III

Year	Number of volumes	Cards made for catalog	Cards made for shelflist
	Classification and Cataloging		
1940–41	5,986	13,306	2,759
1941–42	6,068	13,691	2,806
Total	12,054	26,997	5,565
	Reclassification and Recataloging		
1940–41	2,642	3,543	903
1941–42	606	754	198
Total	3,248	4,297	1,091

Baltimore

The 1938–40 Report, and earlier reports, did not include detailed figures on number of volumes processed in the Baltimore libraries because of the lack of exact statistics. These are included for the first time for the Dental and Pharmacy Libraries.

TABLE IV

Year	Number of volumes classified and cataloged	
	Dental Library	Pharmacy Library
1940–41	848	824
1941–42	1,515	502
Total	2,353	1,326
Year	Number of volumes reclassified and recataloged	
1940–41	12	25
1941–42	180	113
Total	192	138

In the Law and Medical Libraries classification and cataloging have kept pace, in the main, with accessions. The Medical Library needs to be completely recataloged and reclassified as soon as possible to remedy the defects and inaccuracies attributable to an inadequate staff over a long period of years.

Use of the Library

Although by no means the only standard for measuring library service nevertheless circulation figures afford one of the most accurate quantitative measurements of work performed. The figures in Table V show that loans of books have increased by 18.2 per cent at College Park and by 17.2 per cent in Baltimore as compared with the preceding biennium.

TABLE V. *Number of books loaned*

	1940/41	1941/42	Total
College Park			
General Library	97,394	105,625	203,019
Baltimore			
Dentistry	7,005	7,505	14,510
Law	For reference use only		
Medicine	5,429	4,822	10,251
Pharmacy	4,765	5,038	9,803
Total—All Libraries	114,593	122,990	237,583

The Physical Plant

College Park

The removal of the Federal Citizenship Project Office from the Library in June, 1942, made it possible to move the catalog department, the order department, and the librarian's office to the first floor of the building thereby granting temporary relief to our crowded situation. The building is now devoted in its entirety to library purposes with the exception of two small classrooms in the basement reached by an outside entrance. This means that there can be no further expansion within the limits of

this building. As we grow in size steps must be taken to enlarge this building or to construct a new one more suited to the present standing and needs of the University.

Baltimore

There is little to report in this connection except to repeat the fact that the Dentistry-Pharmacy stacks are crowded beyond the point of most effective use. The stacks in the basement of the Medical Library, partially installed in 1937, should be carried to completion as soon as possible.

The Staff

Changes in personnel

The biennium has been marked by a great number of changes in staff in contrast to our normal low rate of turnover. Two important members of the staff of long standing were removed from the roster—one by death (Miss Hook), and one by transferral to another position in the University (Mr. Fogg). A complete list of changes, in chronological order, follows:

October 15, 1940	Mr. Howard Rovelstad, appointed Order Librarian, to succeed Mr. Warren Ziegaus, who resigned to become head of the Accessions Division, Kansas City Public Library.
January 1, 1941	Miss Thelma Wiles, Assistant Cataloger, transferred to the Dental—Pharmacy Library in Baltimore.
January 20, 1941	Miss Ruth Hewlett appointed Assistant Cataloger to succeed Miss Wiles.
May 23, 1941	Miss Virginia Law, Junior Stenographer resigned to accept a better position.
May 24, 1941	Miss Jane Burch appointed to succeed Miss Law.
June 10, 1941	Miss Burch resigned.
June 15, 1941	Miss Alma Hook, Head Cataloger granted three months leave of absence.
July 1, 1941	Miss Adele Skinner appointed as substitute for Miss Hook.
July 10, 1941	Miss Mary L. Lemire appointed Junior Stenographer to succeed Miss Burch.
September 1, 1941	Mrs. Carhart resigned. Miss Gardner promoted to succeed her as Assistant Reference & Loan Librarian.
October 1, 1941	Miss Hook retired for disability. Mrs. Getchell promoted to Head Cataloger.
February 16, 1942	Miss Skinner promoted to succeed Miss Gardner. Miss Helen Armstrong appointed Assistant Cataloger to succeed Mrs. Getchell.
May 1, 1942	Mr. George Fogg resigned. Mr. Rovelstad promoted to succeed him as Reference & Loan Librarian.
June 19, 1942	Miss Lemire resigned to accept better position.
June 20, 1942	Miss Rita Palinsky appointed Junior Stenographer to succeed Miss Lemire.

July 16, 1942	Mr. Harold O'Neal appointed Order Librarian to succeed Mr. Rovelstad.
July 31, 1942	Miss Palinsky resigned.
August 4, 1942	Miss Dorothea Clay appointed Junior Stenographer to succeed Miss Palinsky.

Professional Activities

The staff continues to be active professionally through membership in state and national organizations and through service on committees and boards. A brief survey of the most important activities follows:

Mrs. Getchell served on the Nominating Committee of the Regional Group of Catalogers, Classifiers and Bibliographers of Maryland, Virginia, and the District of Columbia.

Mr. Rovelstad served on the Program Committee of the Maryland Library Association, 1941/42.

Mrs. Clark acted as Editor of the Special Libraries Association, Baltimore Chapter, News-Letter, 1940/41 and 1941/42.

Miss Marriott was Vice-Chairman of the University and College Libraries Group of the Special Libraries Association, 1941/42.

I have served on the State-Wide Library Survey Committee of the Maryland Planning Commission since November 1941, on the Maryland Committee for the Conservation of Cultural Resources since January 1942, and was elected President of the Maryland Library Association for a two year term October 1941.

The staff of the Baltimore Libraries acted as host for the October 1941 meeting of the Baltimore Chapter of the Special Libraries Association. This meeting, held in the Dental-Pharmacy Library, was designed to acquaint other librarians with our resources and services.

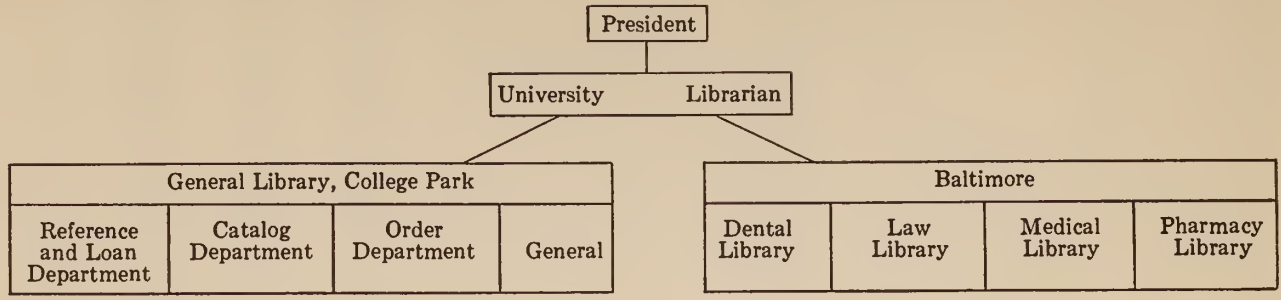
Representation at Meetings and Conferences

The University and Library were represented by one or more members of the staff at meetings of the American Library Association in Chicago (1940 and 1941), and Boston (1941); the Maryland Library Association meeting at Annapolis (1940), Hagerstown (1941), and Braddock Heights (1942); the American Association of Law Libraries at Old Point Comfort, Virginia (1941); and the Institute for Librarians on War Issues at Washington, D. C. (1942). In addition to the above various members of the staff have attended meetings of the Baltimore Chapter of the Special Libraries Association and of the District of Columbia Library Association.

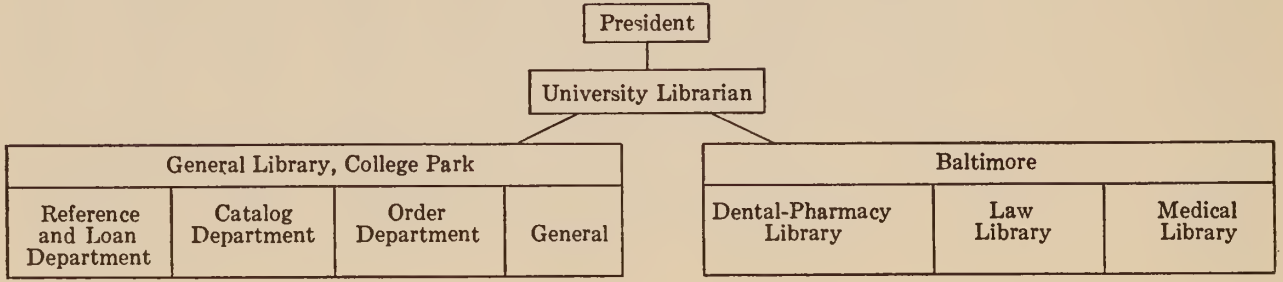
Acknowledgments

In closing this report I should like to express my appreciation to the Administrative Officers of the University for their interest in the develop-

Organization Chart—October 1, 1940.



Organization Chart—January 1, 1941.



ment of the University Libraries. I am particularly indebted to the library staff for their cooperation and loyalty to high ideals of service despite the trying conditions under which they are required to work.

Respectfully sumbitted,

CARL W. HINTZ,
University Librarian.

The Military Department

R. W. WYSOR, JR., *Lt.-Col. Inf., U. S. A.*

THE Military Department since October 1940, has done everything within its power to meet the conditions and requirements that war demands. Changes in course subjects and in methods of Instruction to fit the needs of modern war have been made from time to time.

The personnel of the department has doubled during the past two years. —Total 25.

Total enrollment today is approximately 40% above that of October 1940. This is in spite of a higher physical standard. The Advanced Course quotas have been increased by 40%.

Beginning October 1942, *all* males physically qualified (seniors excepted) were required to register for Military Training.

At the request of the W. D. a Signal Unit was established in May 1942. Present Strength 225.

An enlisted Reserve program has been established by the W. D. to enable students to continue their education. This program is open to all students who have an average scholastic record. Present enrollment approximately 450.

Through the cooperation of the Administration the hours of instruction are practically doubled, allowing more practical instruction. No other school in this area approached our hours.

Believing that men trained for combat leadership should be physically fit in every respect, the department has included physical training in its required program.

All instruction is based on the premise that every individual, particularly members of the Advanced Course, should be given an opportunity to apply in a practical way the rules of combat. Theory is held to the minimum. Emphasis is placed on practical instruction in the fundamentals and technique. Realism in the execution is stressed.

Courses added since 1940:

Combat Exercises
Bayonet Combat
Guard Duty
Over-night Marches
Military Speech (Academic Credit)

Office of Admissions

EDGAR F. LONG, *Acting Director*

THE work of the Admissions Office has been carried on during the past two years in conformity with a comprehensive plan to

1. Promote the greatest possible dispatch in handling current business;
2. Accept students one semester or a year in advance of their graduation from high school or completion of pre-professional courses, contingent upon graduation or completion of courses;
3. Build a file of prospective students from inquiries received from 8th, 9th, 10th and 11th grade students, or from information supplied by staff members and others;
4. Make an annual check of the performance of the class admitted the previous year to get factual evidence as basis for continuing or modifying policy with respect to the schools from which Maryland students come.
5. Conduct a study of admission practices in leading colleges and universities of the country to provide a basis on which to modify or improve policies in effect here.

Comment

1. Prompt handling of all current business is assured so long as staff of size at work on October 1st is available.
2. *College Park.* Acceptance of applicants on partial record was in effect for the first time in the fall of 1941. The number of those admitted who had A & B records increased 10% over the previous year from 30% of the total to 40%.

Baltimore Medicine. The October class for 1941 was filled some weeks in advance of the opening of the fall session. This year the March 1943 class was filled about October 1st. Applications are now being received for January, 1944.

Dentistry. The 1940 class was chosen between June 10 when I took over and October 1st. Admissions for 1941 were begun in March with the class approximately full by September 1st. Approximately 60 of the 70 students for March 1943, have already been admitted. *Speeding up of acceptance has resulted in a very noticeable increase in the number of matriculants with good records.*

3. A sizable file that is growing rather rapidly has been built up of juniors and senior high school students who write for information in planning their programs to meet entrance requirements. In cooperation with the Publications Department, these prospects will become an important part of our mailing list.

4. A study is well under way of the performance of each College Park Student who entered in 1941. The incompleted study shows rather clearly what can be expected of students from given schools, and the bearing of rank in class, etc., on prospects of success in college.

5. The Committee appointed to study our admission practices in the light of what is being done elsewhere has drawn up a comprehensive report, based on their own study and suggestions made by Mr. Hawkins and Mr. Cromwell of the State Department of Education. It is believed that the recommendations made there, if adopted, will enable this office to select students more efficiently.

Report of the Registrar

ALMA H. PREINKERT, *Registrar*

TABLES giving information concerning the general enrollment of students, including extension and short courses; the enrollment trends of all resident and first year students for one, five, and ten year periods; the geographical distribution of resident students; the degrees conferred and certificates awarded; and the instructional staff are shown on the following pages:

Enrollment of Students

TABLE I

COLLEGE PARK

Resident Collegiate Courses:

Academic Year	1940—41			1941—42		
	Men	Women	T'tl.	Men	Women	T'tl.
College of Agriculture	408	26	434	387	28	415
College of Arts and Sciences	639	455	1,094	662	464	1,126
College of Commerce	397	20	417	379	25	404
College of Education	163	403	566	141	457	598
College of Engineering	595	2	597	730	4	734
College of Home Economics	1	305	306	.....	288	288
Graduate School	344	126	470	257	122	379
Total Academic Year, College Park	2,547	1,337	3,884	2,556	1,388	3,944
Summer School	535	918	1,453	415	829	1,244
Total Resident, Collegiate, College Park, Less Duplications	2,841	2,005	4,846	2,767	1,960	4,727
Extension Courses:						
Mining	236	.....	236	226	.....	226
Engineering Defense	637	.....	637	2,266	47	2,313
Short Courses & Conferences:						
Boys' and Girls' Club	201	429	630	139	434	573
Canning Crops Conference	200	1	201	199	1	200
Cattle Feeders' Day	.....	.....	.....	95	5	100
Cooperative Institute	246	.....	246	.....	.....	.....
C C C Educational Conference	108	.....	108	73	.....	73
Dahlia Field Day	.....	.....	.....	20	.....	20
Farm Dairying Short Course (Amer. Women's Voluntary Service)	.....	.....	.....	25	.....	25
Grange Lecturers' Conference	.....	.....	.....	58	230	288
Fertilizer Manufacturers' Conference	.....	.....	.....	52	.....	52
Garden School (Women's Land Army Program)	.....	.....	.....	5	55	60
Greenkeepers' School	51	.....	51	37	.....	37
Guernsey Breeders' Field Day	.....	.....	.....	75	15	90
Highway Engineering Short Course	188	.....	188	.....	.....	.....

Horticulture Short Course (Amer. Women's Voluntary Services)	.....	.....	.....	.....	37	37
Milk Testers Short Course	12	.....	12	7	.....	7
Northeastern States Vegetable Variety Trials & Vegetable Breeding Conference	.....	.....	.....	81	15	96
Nurserymen's Short Course	91	8	99	78	7	85
Nutrition Institute	.....	.....	.....	6	74	80
P. T. A. Conference	117	11	128	116	11	127
Poultry Products Grading and Marketing School	129	5	134	.....	.....	.....
Poultry Short Course (Women's Land Army)	.....	.....	.....	.....	26	26
Rural Women's Short Course	.....	759	759	.....	786	786
Sanitary Engr. Short Course	45	.....	45	.....	.....	.....
School Administrators' Conference	.....	.....	.....	80	60	140
Volunteer Firemen	162	.....	162	311	.....	311
Total Short Courses and Conferences	1,550	1,213	2,763	1,432	1,781	3,213
Total All Courses, College Park Park—Less Duplication	5,264	3,218	8,482	6,691	3,788	10,479

BALTIMORE

Resident Courses: Academic Year	1940–41			1941–42		
	Men	Women	T'tl.	Men	Women	T'tl.
School of Dentistry	372	4	376	361	3	364
School of Education	221	168	389	139	267	406
School of Law	207	11	218	160	15	175
School of Medicine	348	26	374	358	22	380
School of Nursing	.....	142	142	.....	148	148
School of Pharmacy	111	13	124	115	9	124
Graduate School	86	18	104	70	24	94
Total Academic Year	1,345	382	1,727	1,203	488	1,691
Summer School	90	4	94	91	2	93
Total Baltimore Less Duplications	1,361	384	1,745	1,225	489	1,714
Grand Total All Courses, Less Duplications College Park and Baltimore	6,552	3,464	10,116	7,864	4,240	12,104

TABLE II

ENROLLMENT TRENDS

RESIDENT STUDENTS, REGULAR ACADEMIC YEAR ENROLLMENT

	1941–42	1940–41	1936–37	1931–32	One-Year Change No.	One-Year Change Per Cent	Five Year Change No.	Five Year Change Per Cent	Ten Year Change No.	Ten Year Change Per Cent
College Park										
Agriculture	415	434	252	183	— 19	— 4%	+163	+65%	+232	+128%
Arts and Sciences	1,126	1,094	998	770	+ 32	+ 3%	+128	+13%	+356	+ 46%
Commerce	404	417	New College	1938	— 13	— 3%				
Education	598	566	357	182	+ 32	+ 6%	+241	+ 68%	+416	+229%
Engineering	734	597	307	388	+137	+23%	+427	+139%	+346	+ 89%
Home Economics	288	306	159	96	— 18	— 6%	+129	+ 81%	+192	+200%
Total Undergraduate	3,565	3,414	2,073	1,619	+151	+ 4%	+1,492	+72%	+1,946	+120%
Graduate	379	470	337	252	—91	—19%	+42	+12%	+127	+50%
Total College Park	3,944	3,884	2,410	1,871	+60	+ 2%	+1,534	+64%	+2,073	+111%
Baltimore										
Dentistry	364	376	271	422	— 12	— 3%	+ 93	+ 34%	— 58	— 14%
Education	406	389	180	145	+ 17	+ 4%	+226	+126%	+261	+180%
Law	175	218	224	177	— 43	—20%	— 49	— 22%	— 2	— 1%
Medicine	380	374	399	420	+ 6	+ 2%	— 19	— 5%	— 40	— 11%
Nursing	148	142	126	121	+ 6	+ 4%	+ 22	+ 17%	+ 27	+ 22%
Pharmacy	124	124	225	349			—101	— 45%	—225	— 64%
Graduate	94	104	30	28	— 10	—10%	+ 64	+213%	+ 66	+236%
Total Baltimore	1,691	1,727	1,455	1,662	— 36	— 2%	+236	+ 16%	+ 29	+ 2%
Total College Park and Baltimore Less Duplications	5,617	5,591	3,831	3,513	+ 26	+½%	+1,786	+ 47%	+2,104	+ 60%

TABLE III

ENROLLMENT TRENDS

FIRST YEAR STUDENTS

					One-Year Change		Five-Year Change		Ten-Year Change	
	1941–42	1940–41	1936–37	1931–32	No.	Per Cent	No.	Per Cent	No.	Per Cent
College Park										
Agriculture	147	153	93	68	— 6	— 4%	+ 54	+ 58%	+ 79	+116%
Arts and Sciences	473	387	432	335	+ 86	+22%	+ 41	+ 9%	+138	+ 41%
Commerce	149	141	New College	1938	+ 8	+ 6%				
Education	95	94	85	49	+ 1	+ 1%	+ 10	+ 12%	+ 46	+ 94%
Engineering	354	251	117	176	+103	+41%	+237	+203%	+178	+101%
Home Economics	99	108	58	36	— 9	— 8%	+ 41	+ 71%	+ 63	+175%
Total College Park	1,317	1,134	785	664	+183	+16%	+532	+ 68%	+653	+ 98%
Baltimore										
Dentistry	98	86	17	100	+ 12	+14%	+ 81	+476%	— 2	— 2%
Predental	17	29	51	77	— 12	—41%	— 34	— 67%	— 60	— 78%
Law	72	78	65	69	— 6	— 8%	+ 7	+ 11%	+ 3	+ 4%
Medicine	104	100	95	114	+ 4	+ 4%	+ 9	+ 9%	— 10	— 9%
Nursing	62	63	43	51	— 1	— 2%	+ 19	+ 44%	+ 11	+ 22%
Pharmacy	41	45	59	153	— 4	— 8%	— 18	— 31%	—112	— 73%
Total Baltimore	394	401	330	564	— 7	— 2%	+ 64	+ 19%	—170	— 30%
Total College Park and Baltimore	1,711	1,535	1,115	1,228	+176	+11%	+596	+ 53%	+483	+ 39%

TABLE IV

GEOGRAPHICAL DISTRIBUTION OF RESIDENT STUDENTS

REGULAR ACADEMIC YEAR

	College Park		Baltimore	
	1940–1941	1941–1942	1940–1941	1941–1942
Alabama	1	1	3	3
Alaska	....	1	....	....
Arizona	1	....	1	2
Arkansas	....	....	....	1
California	3	7	4	2
Canal Zone	....	....	....	1
Colorado	4	....	....	....
Connecticut	19	20	47	49
Delaware	5	8	6	5
District of Columbia	849	831	14	15
Florida	7	7	6	10
Georgia	2	3	5	7
Hawaii	....	1	....	....
Illinois	9	7	4	3
Indiana	6	7	2	1
Iowa	2	2	....	2
Kansas	1	1	....	....
Kentucky	5	3	....	....
Louisiana	1	4	....	1
Maine	4	4	2	2
Maryland	2,563	2,615	1,167	1,115
Massachusetts	9	11	14	26
Michigan	2	2	....	1
Minnesota	1	4	1	....
Mississippi	1	1	1	....
Missouri	5	5	....	....
Montana	2	1	....	....
Nebraska	....	3	....	1
New Hampshire	4	4	2	3
New Jersey	77	92	90	75
New Mexico	....	....	1	1
New York	119	130	123	110
North Carolina	6	3	43	45
Ohio	10	12	7	11
North Dakota	1	2	....	....
Oklahoma	1	3	1	....
Oregon	1	....	1	1
Pennsylvania	57	52	48	51
Puerto Rico	7	13	33	33
Rhode Island	3	3	5	8
South Carolina	2	1	7	7

South Dakota	2	3	1	1
Tennessee	1	2	3	1
Texas	2	....	....	1
Utah	3	....	2	3
Vermont	....	....	5	4
Virginia	59	53	15	17
Washington	1	....	1	2
West Virginia	13	13	58	63
Wisconsin	4	3	1	....
Brazil	2	2	....	1
Canada	....	....	....	1
China	....	2	....	2
Cuba	4	....	1	1
Palestine	....	....	....	1
Republic of Panama	3	1	1	1
South America	....	....	1	....
Turkey	....	1	....	....
Total	3,884	3,944	1,727	1,691

TABLE V

DEGREES AND CERTIFICATES

	1940–1941			1941–1942			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Honorary Degrees	6	....	6	3	....	3	9	....	9
Honorary Certificates of Merit in Agriculture	3	....	3	1	1	2	4	1	5
COLLEGE PARK									
College of Agriculture, Bachelor of Science	56	13	69	60	2	62	116	15	131
College of Arts and Sciences, Bachelor of Arts	42	46	88	46	58	104	88	104	192
Bachelor of Science	37	19	56	48	23	71	85	42	127
College of Commerce, Bachelor of Science	49	2	51	54	2	56	103	4	107
College of Education, Bachelor of Arts	7	24	31	8	30	38	15	54	69
Bachelor of Science	41	73	114	34	96	130	75	169	244
College of Engineering, Bachelor of Science	53	....	53	55	....	55	108	....	108
College of Home Economics, Bachelor of Science	....	45	45	....	45	45	.....	90	90
Total Bachelors' Degrees:									
Bachelor of Arts	49	70	119	54	88	142	103	158	261
Bachelor of Science	236	152	388	251	168	419	487	320	807
Total	285	222	507	305	256	561	590	478	1,068
Graduate School:									
Doctor of Philosophy	27	2	29	28	2	30	55	4	59
Master of Arts	19	12	31	7	6	13	26	18	44
Master of Science	27	6	33	21	5	26	48	11	59
Master of Education	16	11	27	8	14	22	24	25	49
Total, Graduate School	89	31	120	64	27	91	153	58	211
Total Degrees in Course at College Park	374	253	627	369	283	652	743	536	1,279

BALTIMORE

	1940–1941			1941–1942			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
School of Dentistry:									
Doctor of Dental Surgery	74	0	74	61	1	62	135	1	136
School of Law:									
Bachelor of Laws	51	1	52	30	1	31	81	2	83
Certificates of Proficiency	2	0	2	....	....	....	2	....	2
School of Medicine:									
Doctor of Medicine	83	9	92	81	4	85	164	13	177
School of Pharmacy:									
Bachelor of Science in Pharmacy	21	1	22	17	1	18	38	2	40
School of Nursing:									
Graduate in Nursing	....	28	28	....	28	28	....	56	56
Total Degrees and Certificates in Course at Baltimore	231	39	270	189	35	224	420	74	494
Grand Total, All Degrees and Certificates	614	292	906	562	319	881	1,176	611	1,787

1940–1941

	Agriculture	Arts and Sciences	Commerce	Education	Engineering	Home Economics	Library Staff	Physical Education	Military	Summer School Specials	Total Less Duplications
Professors	24	20	3	6	4	3	....	2	....	....	62
Lecturers	5	4	1	3	5	....	....	....	....	....	18
Associate Professors	10	10	3	1	1	....	1	....	....	....	26
Assistant Professors	10	29	5	1	9	4	....	....	7	....	65
Instructors	7	37	4	7	6	5	2	6	....	41	115
Assistants	4	8	....	....	1	....	....	1	....	....	14
Graduate Assistants	9	15	1	....	....	....	....	1	....	....	26
Fellows	6	19	2	2	....	....	....	....	....	....	29
Critic Teachers	....	....	....	66	....	....	....	....	....	....	66
Extension	....	....	....	....	63	....	....	....	....	....	63
Total	75	142	19	86	89	12	3	10	7	41	484

1941–1942

Professors	23	20	3	4	5	4	....	2	....	....	61
Lecturers	4	4	....	1	6	....	....	....	....	....	15
Associate Professors	12	11	3	1	3	....	1	....	....	....	31
Assistant Professors	12	28	5	1	7	3	....	....	8	....	64
Instructors	8	36	3	7	7	7	2	7	....	35	112
Assistants	3	10	....	....	....	1	....	1	....	....	15
Graduate Assistants	8	26	2	....	....	....	....	....	....	....	36
Undergraduate Assistants	....	4	....	....	3	....	....	....	....	....	7
Fellows	8	11	....	....	....	....	....	....	....	....	19
Critic Teachers	....	....	....	62	....	....	....	....	....	....	62
Extension	....	....	....	....	96	....	....	....	....	....	96
Total	78	150	16	76	127	15	3	10	8	35	518

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

BALTIMORE

	1940–1941	1941–1942
Arts and Sciences	12	12
Dentistry	61	66
Education	30	36
Law	17	16
Medicine	318	298
Nursing	34	36
Pharmacy	28	25
Total Less Duplications	473	455
Grand Total, College Park and Baltimore Less Duplications	957	973

Office of the Dean of Women

ADELE H. STAMP, *Dean*

THE titanic struggle in which the world is at present engaged has changed considerably the picture of the work of a Dean of Women's department. Services of women are needed as never before and in fields hitherto regarded as strictly masculine. The American Council on Education tells us that at the present time approximately 17,000 women are in the Army and Navy Nurses' Corps and in order to meet the demand 3,000 enlistments a month are necessary. Approximately 161,000 women are in other uniformed services in the armed forces.

Industry will need five million additional women by July 1, 1943. To illustrate, I need only to quote the president of a large manufacturing plant who said that before Pearl Harbor the only women employees were the office staff. They now have twenty-five percent women, and within a year it will be seventy-five percent. It could be ninety-five percent if women could be trained to take over jobs requiring scientific knowledge and technical skills. This statement is reiterated increasingly as the war effort is being rapidly stepped up. This presents a challenge to every woman as occupational opportunities for women are greatly enlarged and their field of responsibility greatly increased. We fail in our duty if we do not prepare our women students in college to assume their responsibility.

The Dean of Women's office has attempted to meet its responsibility in several ways.

I. By individual conferences with all women students. Considering we had 1,389 women in the University in 1941–42, this has been quite an undertaking for the three people in this department, in addition to their other

duties. These conferences vary in length from twenty to forty minutes, for each individual. Many of them come back for further guidance and counselling. In these conferences, the need for women in various agencies is pointed out and girls are encouraged to take the necessary courses and to include them in their schedule even though their major interest may lie in another field.

It was my good fortune to be able to attend the first Baltimore conference in January 1942, when the urgent need for women in industry was first pointed out, and the urgent need for accelerating the college course. We were told that "the time is now." Women are needed now—January, 1942—to meet the emergency caused by shortage of man power on the technical and professional level.

The individual in college is faced with an important and difficult choice. She must choose between some form of war service now or continuing her professional training so that she may be able to render greater service at a later date. Through counselling of individual students the desirability of completing her college training in order to be of greater service later on is pointed out to her. She is urged to remain in college and plan to participate more efficiently in the war effort later on. This counselling job is made easier because of the cooperation of the University in including in the curriculum numerous courses which contribute to victory.

II. The Dean of Women's department through cooperation with war time agencies and the dissemination of information regarding them has attempted to inform the students of the preparation necessary for service in the WAVES, WAACS, SPARS, Signal Corps, U.S.O. and other war services.

III. Planning and holding a series of Vocational Guidance lectures for all women students, but with special emphasis on Juniors and Seniors. Some of the outstanding ones included were:

A. Nursing. Miss Creighton from our University Hospital spoke on the need for recruiting nurses, the necessary training and preparation, and nursing as a profession.
B. Women in Government service. Mr. Fleming of the Civil Service Commission explained the many and varied opportunities for college graduates in the government services.
C. Secretarial. The head of a large secretarial school spoke on the need for college graduates as secretaries to executives in various professions, and explained the opportunities for women in the business work with college degrees.

IV. War Service. Speaking at rallies for the sale of War Bonds and Stamps, and taking students to participate in the rallies. Working with the students on the Victory Council, and helping with their problems. Working out a system of monitors for fire drills, air raids and blackouts in the dormitories, off-campus houses and sororities. Surprise fire alarms have been given in the above mentioned places. The two large dormitories for women

can each be completely emptied in two minutes at a surprise fire alarm or air raid. This is due to the interest and excellent cooperation of the students and house mothers.

V. Community Service. As Chairman of the Education Committee of the Maryland Federation of Women's Clubs, the Dean of Women acts as a cooperating link between the University and this organization interpreting the work of the University to them, presenting the program of Education for clubs all over the state, and speaking at conventions and club meetings. Other organizations where she acts in a like capacity are the American Association of University Women as Chairman of the Scholarship Committee, Chairman of the program committee of Delta Kappa Gamma state organization for leaders in the teaching profession, member of the state wide W. P. A. recreation committee, one of the three members of the Mortar Board scholarship committee (Mortar Board is the only national honor society for senior college women), the National Treasurer of Alpha Lambda Delta, National Freshman honor society, and a member of the National committee on Equal Opportunities for Women Teachers of National Delta Kappa Gamma.

Building and Grounds

THE scope of responsibilities of the Department of Plant Maintenance and Operation, since the 1940-1941 report, was increased by the addition of the Dairy and Animal Husbandry group of buildings.

* The war years brought a curtailment in male enrollment and accompanying labor shortages among the maintenance crews. Only work of emergency nature was possible for most of this period.

* In the post war period, it is hoped that all of the buildings can be restored to first class condition and be properly maintained.

Report of the Comptroller

The receipts for the two years ended September 30, 1942, for the several divisions of the ard of Regents and the State Board of Agriculture were as follows:

1940–41

	State of Maryland	U. S. Government	Student Receipts	Sales and Miscellaneous	Total
truction, Baltimore	$130,961.12		$427,920.13	$131,817.76	$690,699.01
truction and Allied Activities, College Park	374,786.38	$172,796.09	530,475.38	527,318.12	1,605,375.97
iversity Hospital	113,095.00			594,247.47	707,342.47
icultural Exp. Sta.	75,634.00	118,977.79		46,756.52	241,368.31
tension Service	197,007.50	195,927.62		76,787.01	469,722.13
e Stock Sanitary ervice	222,640.00			16,830.02	239,470.02
te Dept. of Forestry	60,594.00	14,538.03		39,971.70	115,103.73
. Geological Survey	15,383.00			741.65	16,124.65
.. State Weather ervice	2,551.00				2,551.00
ncess Anne College	25,983.00	17,801.24	10,065.58	20,072.21	73,922.03
letics and Other tudent Activities			107,338.49		107,338.49
Total	$1,218,635.00	$520,040.77	$1,075,799.58	$1,454,542.46	$4,269,017.81
centage of total ncome	28.55	12.18	25.20	34.07	100.00

1941–42

ruction, Baltimore	$140,541.51		$615,761.27	$144,632.31	$900,935.09
ruction and Allied ctivities, College ark	392,125.52	$213,521.47	601,792.46	609,780.68	1,817,220.13
versity Hospital	136,714.05			644,892.08	781,606.13
icultural Experi- ent Station	94,662.81	120,259.72		64,291.30	279,213.83
ension Service	218,020.28	197,725.64	3,148.97	50,711.27	469,606.16
e Stock Sanitary ervice	237,243.60			17,688.96	254,932.56
e Dept. of Forestry					
Geological Survey					
State Weather ervice					
cess Anne College	25,723.17	17,481.54	9,264.30	15,433.16	67,902.17
etics and Other udent Activities			94,762.32		94,762.32
Total	$1,245,030.94	$548,988.37	$1,324,729.32	$1,547,429.76	$4,666,178.39
entage of total come	26.68	11.77	28.39	33.16	100.00

Princess Anne College

R. A. GRIGSBY, *Acting Dean of Administration*

DURING this biennial period the regular program of Princess Anne College was seriously retarded because of enforced attention to the "War Effort." Instructors were released through the Selective Draft, for war industry, for conducting resident and extension classes in food production and food conservation and in farm machine-repair. Our male enrollment was reduced by the Draft 87%.

The College cooperated in War efforts such as lectures on bomb protection, first aid lectures and demonstrations, and drives for the sale of War Savings stamps and bonds.

A few courses, considered unessential in time of war, were discontinued and courses in gardening for girls and accelerated shop courses for boys were substituted.

No new construction in the physical plant was made. Only the most necessary repairs received attention.

A special correspondence committee was organized in the faculty to keep in regular communication with all former students and employees of the College in the Armed Service. This proved an effective morale builder as was testified by many who received the "News Letter" sent out by this committee.

Through increased efforts of faculty, students, alumni and all others interested in the welfare of Princess Anne College, the institution maintained a full-time schedule during the war period.

UNIVERSITY OF MARYLAND

OFFICIAL PUBLICATION

Vol. 34 October, 1944 No. 6

BIENNIAL REPORT

of the

UNIVERSITY OF MARYLAND

and

STATE BOARD OF AGRICULTURE

Issued monthly by the University of Maryland at College Park, Md. Entered as second class matter under Act of Congress of August 24, 1912.

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BOARD OF REGENTS

October, 1944

	Term Expires
Rowland K. Adams 1808 Fairbank Road, Baltimore	1948
Mrs. John L. Whitehurst 4101 Greenway, Baltimore, Md.	1947
J. Milton Patterson 120 W. Redwood Street, Baltimore	1944
W. Calvin Chesnut Roland Park, Baltimore	1951
Wm. P. Cole, Jr. 100 W. University Parkway, Baltimore	1949
Paul S. Knotts, M.D. Denton, Maryland	1946
John E. Semmes 100 W. University Parkway, Baltimore	1951
Philip C. Turner 2 East North Avenue, Baltimore	1950
T. Roy Brookes Bel Air, Maryland	1950
Harry H. Nuttle Denton, Maryland	1948
Stanford Z. Rothschild 2215 KenOak Road, Baltimore	1952

LETTERS OF TRANSMITTAL

His Excellency Governor Herbert R. O'Conor,
and the General Assembly of Maryland,
Annapolis, Maryland

Sir and Gentlemen:

The Board of Regents of the University of Maryland and the Maryland State Board of Agriculture herewith render a report of the work of the several departments under their jurisdiction for the past two years.

Very truly yours,

ROWLAND K. ADAMS,

Chairman, Board of Regents of the University of Maryland and of the Maryland State Board of Agriculture.

Sir:

Herewith is a brief report of the University of Maryland and the Maryland State Board of Agriculture for the last two years. This report includes all branches of work under each board and included the period covered in the State's fiscal biennium from October 1, 1942 to September 30, 1944.

Very truly yours,

H. C. BYRD,

President and Executive Officer

College of Agriculture

H. F. COTTERMAN, *Assistant Dean*

DURING the biennium just closed the enrollment in the College of Agriculture dropped from the all-time high of 425 students per semester of the previous biennium to an average of 125 students per quarter. This drop in enrollment was due to the demand for young men in the armed forces, the need for labor at home on farms and the call for workers in war industries.

A high percentage of the graduates and former students of the College of Agriculture are in responsible positions in the military and other activities directly connected with winning the war. More than 125 of the graduates are commissioned officers in the armed forces.

Enrollment was maintained at the above mentioned level in part through the return of advanced undergraduates by the army for the completion of technical programs.

There were quite a few changes in teaching personnel. Younger members of the staff accepted commissions in various branches of the armed services. A few were attracted to more lucrative positions in public service and in business. Graduate students who ordinarily assist in laboratories, green houses and with demonstration plots, flocks and herds as well as with other phases of instruction were called into war service one by one until few remained. The shortage of technically trained men made but few replacements possible anywhere along the line.

The duties of members of the instructional staff who remained in the College of Agriculture were heavier than in normal times. To a man they assumed increased obligations in the College, in the Experiment Station, and in Agricultural Extension as their younger associates left for the service. Even with the decrease in enrollment, it was necessary to keep a high percentage of courses open for regular students and for those who were returned by the army to complete their curriculums. In order to facilitate the entrance of students into responsible positions, it was necessary also to offer courses more frequently in an accelerate plan of university organization. With the inauguration of the Army Specialized Training Program several instructors from the College of Agriculture were called to teach courses in this phase of war preparation. Returned veterans began to enroll. In addition, the committee, conference, counselling and correspondence service which normally falls to personnel in agricultural college teaching positions was increased by the food production and other problems in the field of agriculture incident to the war.

In the general curriculum in the College of Agriculture the enrollment ranged from 40, at the beginning of the biennium, in the

Fall Semester of 1942-43, to 15 in the Spring Quarter of 1944. Enrollment was maintained at a fairly high level due to the fact that students who can complete only one year before entering the armed forces were encouraged to register in this curriculum. Of the 7 who graduated, 4 have gone into the armed forces, one into graduate work and 2 into government service.

Enrollment in the Agricultural Education curriculum ranged from 46 at the beginning of the biennium to 6 in the Spring Quarter of 1944. Of the 17 who graduated from this curriculum, 6 entered teaching, 8 went directly into the armed forces and 3 went into farming. Of the 6 who entered teaching, 5 went into the armed forces after teaching from 4 months to a year. Several studies of State-wide problems in Agricultural Education were made by this department in cooperation with the State Department of Education. The department continued to issue periodic news notes for the benefit of teachers of Vocational Agriculture.

Ten courses were offered by the Department of Agricultural Engineering with a total enrollment of 113 students. By the close of the biennium, 2 students remained in the five-year program in Agriculture —Engineering. One of these had completed two years, the other four terms.

The Department of Agronomy offered 18 courses with a total enrollment of 218. All of the 11 students who graduated from the Agronomy curriculum during this period entered the fighting forces. One was disqualified later for physical reasons and is now on temporary employment in the Department. Personnel losses among the instructional staff included Alston Specht in Soils and Albin O. Kuhn in Crops. The latter accepted a commission in the Navy just at the close of the biennium. Dr. G. F. Madigan assisted with courses in the Army Specialized Training Program.

A total of 295 students enrolled in the 14 courses offered by the Department of Animal Husbandry. Twenty students graduated from the Animal Husbandry curriculum. Eighteen of these joined the fighting forces, one is farming and one otherwise employed. Beginning with July 1, 1943, Dr. Fred H. Leinbach was granted a part time leave of absence from the University to serve as Director of the National Livestock Conservation Program. Assistant Professor James B. Outhouse was commissioned in the Navy in February, 1944. His instructional responsibilities were temporarily assumed by Assistant Professor Ural G. Bee.

The instructional program in the Department of Botany was sub- in the undergraduate courses remained comparatively high since these courses serve not only the College of Agriculture but all of ject to the same fluctuations and demands of the war. Enrollment

the University. It was necessary to offer every undergraduate course in its regular sequence. And, although the enrollment as a whole was smaller, the instruction time involved was lessened but little. Enrollments were markedly less in advance courses where they are confined principally to majors in the department. Only three undergraduate majors were permitted to remain in college long enough to complete their degrees. The rest were drawn into the armed forces. Of the six graduate students who received their degrees, five entered government service and one entered the armed forces along with those who did not have time to complete thir programs. The principal staff losses follow: Dr. Harold G. Shirk, Ass't. Prof. of Pl. Phys., was commissioned a Major in the Army. Dr. Mark Woods, Prof. of Plant Pathology, was commissioned a Lieutenant in the Navy; and Dr. Robert D. Jones, Instructor in Botany, was commissioned a Lieutenant Junior-Grade in the Navy. Dr. Milton A. Petty was added to the staff for work in Plant Pathology. As the advanced undergraduate and graduate enrollment lessened Dr. Russel G. Brown was able to assist with the Army Specialized Training Courses.

The Department of Dairy Husbandry early adjusted its activities to meet the problems of the dairy industry as they apply to the war effort. Of the 31 majors in the department for the period under report, 18 left college to join the armed forces, 8 graduated, and 5 were in school at its close. Of the 8 who graduated, 6 joined the military service, one returned to the management of his home farm and one joined the Departmental staff. Near the close of the biennium, Dr. Kenneth L. Turk, resigned to become Head of the Department of Dairy Husbandry at Cornell University, and Dr. C. W. England was attracted into commercial work. Mr. I. Deward Porterfield was added to the staff as instructor in Dairying.

The Department of Entomology taught 177 students. Eighty-seven of these were in the introductory course, 23 in Medical Entomology and the remainder in other courses. The department had eleven majors. All of these entered the armed forces. In addition, 6 assistants from the Department were commissioned in the Sanitary Corps, the Navy, or the Public Health Service. Interest in Medical Entomology was stimulated by the desire of those about to enter the armed forces to know something of the insect vectors of diseases they were likely to encounter in their service. Assistant Professor Paul Knight resigned in the second term of 1942. His place was filled by Miss Elizabeth Haviland, a graduate assistant studying for her doctorate.

Four hundred and five students were enrolled in the courses of the Department of Agricultural Economics and Farm Management. All of the regular courses of the Department were offered in sequence. Enrollments per course were fewer than in years pervious to 1942.

Instructional time, however, was lessened but little. The department had 11 undergraduate majors and 5 graduate majors in each of the two years of this period. Five received degrees. Of these, 2 joined the armed forces, 1 accepted a position with the government of Columbia, South America, 1 is taking graduate work and one is Assistant County Agent. Of the major students who did not receive degrees, 5 are in the military service, 2 are farming, 1 is taking graduate work, 1 is with the Federal Government and 1 is with the State Department of Education. James W. Coddington, Associate Professor, resigned to accept a position in the Navy. Paul R. Poffenberger, Assistant Professor, was commissioned in the Navy. Dr. Emil S. Troelston was added to the teaching staff as associate professor.

The undergraduate enrollment in the Department of Horticulture has ranged from 23 major students in the Fall Semester of 1942 to 5 at the close of the Spring Quarter in 1944. Ten major undergraduate students were granted Bachelor of Science degrees. None of these joined the armed forces, 1 accepted a position with the United States Horticultural Field Station at Beltsville, Md. Of the 4 graduate students receiving advanced degrees, one is in the U. S. Navy, 1 is in Cuba on research work with hemp crops for the U. S. Department of Agriculture, 1 is in Central America on research work with cinchona trees for the U. S. Department of Agriculture and one is an Associate Professor in research work in the Department of Horticulture.

Principal staff losses during the period are Dr. C. W. Hitz, Lieutenant with the U. S. Army Engineers; William Woods, Sergeant in the U. S. Army; Jack Amatt, Lieutenant in the Army; D. M. Bailey resigned April, 1943; and M. T. Fossum resigned August, 1943, for work with commercial interests.

All courses in the Poultry Department were offered during the biennium with decreased enrollments. A total of 40 students received instruction. Of the 7 major students enrolled in the poultry curriculum, 4 graduated. Three of these were inducted into the armed forces. One is pursuing graduate work in Poultry Husbandry. Prof. James M. Gwinn continued with the Army. Near the close of the biennium, Dr. H. R. Bird resigned to pursue special work with the U. S. Department of Agriculture. Prof. George Quigley assisted with courses in the Army Specialized Training Program devoting, in certain quarters, as much as 50 percent of time to this work.

Interest continued in courses in Veterinary Medicine. All of the regular courses were offered with enrollments ranging from 18 to 5. There was increased interest in the courses dealing with poultry disease control.

Maryland Agricultural Experiment Station

THE biennium included in this report was entirely a period of war. As a consequence, its two outstanding characteristics have been an abnormally large number of separations from the Station staff through leave for military service or for other national activities, and the revamping of research to permit the maximum of effort on projects which contribute directly to the war effort. Leave has been granted to seventeen members of the Station staff. In some cases, the places of these men have been filled with temporary employees; in others, it has been necessary to leave them unfilled. In keeping with the policy that was adopted for the war period, long-time studies or others from which immediate contributions to the war effort could not be expected were held relatively inactive, while those were pushed which gave promise of immediate beneficial results.

While the total volume of work was reduced somewhat, due to losses in personnel, the record of research for the biennium shows some notable achievements.

Published results for the period from October, 1942, to June, 1943, are included in nine bulletins, twenty-four articles in scientific journals, and twelve miscellaneous publications. In addition, an abnormally large amount of accumulated results remains unpublished because of pressure of work and delays in publication. However, the essential features of such work have been brought to the attention of those groups in the state who are likely to profit most from them. Lists of publications and progress reports on work not completed may be found in the fifty-sixth and fifty-seventh annual reports which together cover the biennium.

Economics and Farm Management

It has been the purpose of the Department of Agricultural Economics and Farm Management to discover the economic facts about Maryland farming. A handbook has been prepared that brings together all available data for the past and present on acreage, production and value of crops; numbers, production and values of livestock; real estate values; prices received by farmers; incomes from farm marketings and government payments; and other data on Maryland agriculture. In addition to the information contained in this handbook, records have been assembled on quantity, age and condition of the different types of farm machinery and work stock; farm labor supplies; housing conditions and facilities for farm labor;

the amount of labor required for production, for assembling and for processing the different farm commodities. With this information, it has been possible to take steps for locating trouble spots and for alleviating difficulties in the way of maximum agricultural production in different parts of the state. It has been possible also to make estimates of feasible production of the different commodities. Such production estimates have been made for each year and have served as a basis for establishment of production goals in the different counties.

Agricultural Engineering

The Department of Agricultural Engineering has cooperated with other departments in an attack upon critical problems interfering with effective production, processing or storage of different crops. Therefore, various phases of this work may be scattered through reports on the work of other departments.

One of the most important problems engaging the attention of this department during the past biennium has been the effective curing and storing of sweet potatoes. Two pilot storage houses holding some hundreds of bushels each were constructed at the Plant Research Farm. In the two years of storage studies which have been conducted in these houses, exceedingly successful results have been obtained, with losses from shrinkage and from rotting reduced to very low figures. After one year of study in these houses, two large commercial houses were built on the Eastern Shore, one with a capacity of 60,000 bushels and the other 112,000 bushels. While much improvement has been brought about in the efficiency of curing and storage in these structures over that which prevails normally, difficulties have been encountered in establishing conditions as uniform throughout these large structures as those which are maintained in the pilot houses. From the information that has been gained in one year of operation, it is anticipated that many difficulties will be overcome in the future.

A mechanical egg cooler has been constructed and given rather thorough tests under farm conditions. With this cooler, it has been possible to maintain eggs in storage at much higher level of quality than was possible in normal form storage.

The department has cooperated with Horticulture in modifications of design for dehydrating equipment that has been used with good results on fruits and vegetables.

Some years ago a wheat drier was designed, constructed, and on test proved to be highly efficient. Further modifications are in progress on this machine to adapt it for use with other grains. Studies

are now in progress on modifications of design of mow hay driers to improve their efficiency.

Crops and Soils

Work in the Department of Agronomy has dealt with problems in both crops and soils. Comparisons in various parts of the state demonstrate that the best hybrid field corn has out-yielded the best open pollinated variety by more than 16% over a five-year period. Of many hybrids that have been under test, superior ones now can be recommended for the different areas of the state. New inbred lines are being tested in combination with various established ones that have showed promise in an attempt to discover hybrids for the future that will show even greater superiority than those in use today. Among white sweet corns, one such inbred line has been distributed to commercial seed growers in the northeastern part of this country for use in hybrid combinations adapted to this area. Progenies of top crosses of this inbred line, either commercial varieties or hybrids, when compared with the seed parent show yield increases of 25% at College Park and 35% at Ridgely as averages of three years' results. Among the barley varieties, a new beardless one (Wong) is showing sufficient promise to be included among those for which foundation stocks are increased. Through pasture studies, promising combinations of pasture plants are being discovered which permit the uniform production of nutritious and palatable forage throughout the growing season.

A survey of all past records of the results of nitrogen top-dressing on small grains and on non-legume hay together with results of work now in progress, indicates that under conditions here each pound of nitrogen used in spring top-dressings has produced more than twenty-two pounds of grain, provided that the amount used was not sufficient to cause lodging. On hay, each pound of nitrogen, when used as a spring top-dressing, has added about fifty pounds of cured weight to the crop. Tests of the value of phosphorous from different sources among those which have appeared recently on the market show marked differences in the responses. Where lime has been used in large quantities to overcome the acidity in highly acid soils, alfalfa shows distinct signs of potash deficiency unless the commercial fertilizers which are used carry relatively high percentage of potash.

In order that accurate information may be available to guide the active program of the Soil Conservation Service, a series of cooperative studies with the research agency of that Service is in progress to determine the values of the different types of erosion control measures in conservation of soil, of moisture, and in resulting crop yields.

Seed Testing

Work of the seed laboratory has proceeded along the same general lines as in recent years. Seed stocks on sale throughout the state have been inspected and samples have been brought to the laboratory for examination. The results of these laboratory tests have been reported to the dealer and to the wholesale dealer who tagged them, thus enabling the retail dealer to judge whether he had been supplied with seeds of the quality represented by the tagging.

Farmers, retail and wholesale dealers, and others have continued to submit samples to the laboratory for examination. The results of these examinations have been reported as promptly as facilities have permitted.

With seed supplies of many kinds short, prices have advanced, and as always follows under such circumstances, some lots not of high quality have appeared on the market. As a result, seed users should be particularly careful in their purchases, If possible, the seeding value of seeds of questionable quality should be checked at the laboratory before planting. Such precaution may prevent serious crop losses at a time when it is imperative to produce maximum yields from the land and labor available.

Animal Husbandry

Much of the work of the Department of Animal Husbandry has been directed toward a determination of the efficiency and economy of various rations which must be substituted for those normally used, because of the shortage of various feeds at this time. These studies have compared the net energy values of crushed barley and crushed wheat in comparison with shelled corn as grain for fattening calves. They have demonstrated that corn silage can be used economically with various animals in much larger proportions than is customary in the rations to replace scarce hay.

Studies on the curing of hams, in cooperation with the Bureau of Animal Industry of the U. S. Department of Agriculture have demonstrated that highly uniform and quick salt distribution throughout the ham can be accomplished by use of the arterial system with its branches and tributaries which form a network extending into the muscular tissues, bone marrow, and fat. Both pumping under pressure and gravity have given uniform distribution through the artery system. However, pumping under pressure has permitted the tissue to retain more brine and show a higher salt content than was accomplished by gravity.

The department is continuing its breeding program with the progeny of a cross between Landrace and Berkshire hogs to establish a

breed showing the favorable characteristics of both parents. This work, too, is in cooperation with the Bureau of Animal Industry.

Diseases of Livestock

In the Department of Animal Pathology, continued studies on Bang's Disease (calfhood vaccination) show that best results are obtained when calves are vaccinated with Strain 19 between 4 and 8 months of age, since blood reactions do not remain as long as when older animals are treated. Less than 1 percent of vaccinated animals aborted. Infection of udders was present in a small number of vaccinated animals, and all of these infected cows showed positive blood reactions. The germ causing udder infection did not resemble Strain 19, used for vaccination.

Vaccination of mature cows with Strain 19 has not been practiced extensively enough to furnish information of value. The blood reaction in cows in which vaccine was injected into the layers of the skin declined faster than in cows injected beneath the skin with a larger dose. Since the value of the agglutination blood reaction as an indication of resistance or immunity has been questioned, other blood reactions are being studied.

In continued studies on bovine trichomoniasis, when there is a chance that this disease of the genital tract of cattle is present, breeding should be discontinued entirely until it can be shown safe to continue. It cannot always be diagnosed by the herd history and by laboratory examination and repeated studies are often necessary. No satisfactory medicinal treatment has been found.

Slight decreases in the red blood corpuscles and hemoglobin appear characteristic of brucellosis of swine. In agglutionation blood tests, low reactions appear significant, being encountered in early and late stages of the disease, with very high titers in the acute stages. Other blood reactions apparently associated with resistance or immunity show highest during recovery.

Promising results continued to be secured in the control of mastitis from chemical treatment combined with sanitary practices. Treatment of cows in milk showed an average efficiency of about 50 percent, whereas treatment of cows during the dry period showed about 70 percent. The dry cow treatment is only completely satisfactory when it is possible to prevent reinfection of the clean cows from untreated animals, or those not cured completely.

Botany and Plant Pathology

While much of the work in Botany and Plant Pathology has been deferred for the present because of its fundamental nature, yet some

of the work has contributed very significantly to the present emergency program. In sweet potato dehydration, a darkening of tissue developed which needed explanation and methods of prevention. It was possible to determine the cause for this discoloration and the conditions under which discoloration occurred. Also, techniques were devised for use in commercial dehydration that would overcome the difficulty.

In cooperation with the Bureau of Plant Industry, strain testing continued with potatoes and strawberries in an effort to isolate seedlings with high yield, high quality, and disease resistance. One new potato and one new strawberry were named and made available for commercial production. Added emphasis has been given to disease studies of sweet potatoes and soybeans.

Dairy Husbandry

Because of the critical feed situation, some of the most important research in the Department of Dairy Husbandry has been centered upon problems of nutrition. A determination was made of the association between age and intra-ocular tension with dairy cows to use as a basis for determination of vitamin A deficiency. Studies have been conducted on the effect of vitamin A and carotene in colostrum and in the rations for calves. Other studies have determined the effect of these same materials on milk production with mature animals. Calves from dams on ration deficient in vitamin A may be blind, paralyzed, and show deterioration of the central nervous system. The effectiveness of different dry starters to replace milk in calf rations has been determined as well as the value of kelp meal and of cheat (Bromus secalinus) for mature animals. Studies on the storage of milk powder indicate some loss of vitamin A and practically no loss in riboflavin at temperatures around 20 degrees C. with additional loss of both of these materials at higher temperature.

Insect Pests

With the tendency of insects to take advantage of improved transportation facilities throughout the world, new invaders are continuing to spread. Some of the studies with Japanese beetles have been aimed at a rduction in the cost of the bait used in traps. Cooperative studies on concentrated sprays and aerosols show much promise for improved methods of fighting insects after the war. Studies on migratory beekeeping in Maryland have demonstrated the possibility of much increased production of honey from hives that are moved with the season of blooming of different honey plants over the state.

Horticulture

The Department of Horticulture has introduced one new and promising peach variety under the name of "Redskin." A study of peach malady indicates that much more attention must be devoted to nutrition of peach trees than has been accorded in the past. New methods for propagation of fruit trees have been presented and further influence of the effects of root stocks have been detrmined. Marked increases in yield of some standard strawberry varieties have been obtained by cultural changes which reduce the number of plants per acre and retain the more mature plants for fruit production. Studies of fertilizer placement on vegetables for processing throw new light on the methods of handling heavy aplications for increased production.

Efforts are being made to determine causes for and methods of preventing cracking in sweet potatoes. From four to seven thousand tons of this crop are needed to supply dehydrating plants now in operation in the state. Therefore, characteristics of the different varieties, air temperatures, duration of drying time, and changes in food value have been subjects of much study. One of the most promising materials that may have a permanent market place after the war emergency is apple pie stock dehydrated by the processes which have been developed.

Poultry

In poultry, as in other types of livestock work, one of the most pressing problems has been that of nutrition during the period of feed shortage. Much information has been obtained concerning the methods of substituting plant proteins for animal proteins in poultry rations. Soybean meal and corn gluten meal come to places of high importance provided the soybeans have been sufficiently heated in the process of manufacture. Much soybean meal now on the market is lacking in this respect. It has been demonstrated that low grade diets deficient in some of the vitamins not only reduce growth and egg production, but hatchability of eggs as well. Wheat that has possibly been damaged in some way is demonstrated to have an important part in inducing "pullet disease," and studies are in progress to determine the causes of this trouble.

Other studies include the breeding for increased efficiency in utilization of feed, the intensification of hereditary resistance to pullorom and the establishment of a test for the presence of visceral leucosis.

Extension Service

T. B. SYMONS, *Director*

DURING the period included in this report, the Extension Service has devoted practically all of its efforts to activities connected with wartime measures and rural living under wartime conditions.

Production of food in record quantities, particularly certain types of foods, has been generally recognized as ranking in importance with production of implements of war. In producing the record quantities of food, Maryland farmers have been confronted with many limitations, restrictions and handicaps. The major work of specialists and agents of the Extension Service has been associated directly or indirectly with helping farm people to meet their food production and conservation goals under existing conditions, together with leadership and assistance in many wartime measures in which rural people as well as others had a part.

A more complete report of the Extension Service is printed and submitted to the President and Board of Regents annually. This report summarizes some of the more outstanding activities and results during the period October 1, 1942 to June 30, 1944. Some results are available only on an annual basis, so that it is necessary to use figures for the calendar year 1943.

The demands on County Agents and Home Demonstration Agents have been especially heavy during the war period. It was only in the spring of 1944 that any additional funds were made available to the Extension Service to secure assistance for the workers in the counties.

War Food Assistants—With the approach of the 1944 season, the War Food Administration assigned additional money to the Federal Extension Service for employment of assistants in this field. Maryland was assigned its proportional allotment of these funds and every effort has been made to secure satisfactory workers. Twelve temporary assistants have been secured to date.

Special emphasis has been placed upon aiding Negro work and 6 Negro Assistants have been employed to aid the large number of Negro farmers and to assist in the live-at-home and conservation program.

Farm Labor—One of the most acute and also most vital problems confronting Maryland farmers was to obtain adequate farm labor. The draft and war industries took thousands from rural communities, and yet farmers were called to produce more than ever before.

In May, 1943, Congress requested the Federal and State Extension Service to take over the farm labor program and appropriated certain funds for its operation. This was an entirely new project for Extension forces. A definite organization charged with this responsibility was set up in the Extension Service, which worked in conjunction with all Extension workers, including specialists and agents in the counties.

Plans were made for mobilizing local labor resources and for securing foreign labor through the Federal Extension Service and Office of Labor of the War Food Administration. Of a total of about 4,500 Bahamians brought to this country in 1943, about 1,800 were assigned to Maryland. This labor was eminently satisfactory and of untold assistance is relieving harvest demands.

Through the cooperation of Governor Herbert R. O'Conor, a conference was arranged with five states south of Maryland for the purpose of promoting migrant labor into this State. While less than in normal times, a substantial number, approximately 1,500, came from the Southern States to help in the harvest.

With the addition of foreign labor, the mobilization of boys, girls and women, the use of local labor from all sources, together with curtailment of yields by drought, the labor situation in 1943 proved fairly satisfactory to all concerned. Over 100,000 placements of agricultural workers were made by the Extension Service in 1943. with a possible increase of 50 percent in 1944.

The season of 1944 is developing as this is written, with effective labor programs in 21 of Maryland's 23 counties. Already, 1,700 Bahamians, located in four camps, 10 private housing units and on 200 private farms, and 700 Jamacians in five camps are in the State assisting with harvesting work. Most of these 2,400 foreign workers will remain in the State for the summer.

With the splendid cooperation of the Third Service Command of the Army, approximately 1,800 German prisoners of war are being used in agriculture, with an equal number assigned to canning factories.

It is believed that the demands of 1944 will be met without loss of crops due to inability to harvest. Local forces of men, women, boys and girls are assisting. Two girls' camps, combining VFV and WFA in 1943 and again in 1944, with a constant enrollment of approximately 100 girls and women, are doing fine work on the Western Shore. Five boys' camps in 1943 handling 250 boys and seven boys' camps in 1944 handling 550 different boys are doing harvesting and hybrid corn detasseling with splendid acceptance by farmers.

Feed Shortages—With the period covered by this report, it has been necessary to cope with shortages of protein feeds, grains, and roughages. In response to wartime demands, the numbers of dairy cattle,

other livestock, and poultry were increased to an all-time high. Some of the protein feeds commonly used were not available in sufficient quantities. Later grain feeds, particularly corn, were short in supply. The drought late in 1943 created a very acute problem of supplying roughage.

In the case of protein feeds and grains, the principal activities of the Extension Service were in the line of encouraging and assisting farmers to produce as large quantities of protein feeds at home as possible, and in helping them to devise rations whereby the existing supplies would be used most efficiently. Particularly in the case of poultry was it necessary to devise different rations from those in common use.

The corn crop was cut by drought and certain restrictions and price relations prevented corn being imported as in normal times. Farmers were forced to use wheat, barley, and other feeds to a greater extent, and information for such use was supplied.

When the drought assumed serious proportions in July, 1943, it became evident that drastic action must be taken to maintain the milk supply and the increased numbers of other livestock. As an outcome of a conference on August 23, in which representatives of Maryland, Virginia, West Virginia and parts of North Carolina participated, two committees were set up. A plan for bringing hay into the drought areas was perfected quickly with the Administrator of the Commodity Credit Corporation. The task was assigned to the Southern States Cooperative. The Commodity Credit Corporation provided a subsidy of from $10 to $15 a ton. A total of 11,585 cars of hay were brought into the drought areas, and, of these, 4,296 cars were delivered in Maryland. The general cost to farmers was $20 for mixed hay, $25 for first-cutting alfalfa, and $27.50 for second cutting of alfalfa.

The Southern States Cooperative volunteered to do this business in behalf of farmers without profit and did an excellent job in meeting the emergency. It was extremely satisfactory emergency program and a wonderful help to dairymen and stockmen in the distressing situation.

Home-Grown Feeds and Feeding—Efficient production and wise use of home-grown feeds has been recognized as one of the foundation stones in Maryland's livestock and dairy industries. The agronomy, dairy and livestock specialists of the Extension Service have joined in a systematic effort to assist farmers in growing and utilizing home-grown feeds. While this program was started before the present emergency, it proved among the most effective in meeting wartime conditions.

8-Point Milk Production Program—Dairymen in Maryland and throughout the country were called upon in 1944 to produce every drop of milk possible A national 8-point increased milk production program was projected. The Extension Service, with the cooperation of dairy organizations, cooperatives and other agencies, developed an 8-point program especially adapted to conditions in this State.

The eight points emphasized are: Grow more legume hay, pasturage and grain; fertilize to increase quanity and improve quality of feed; feed to avoid summer slump; feed cows liberally during their dry period; keep as many cows as feed and labor permit; follow correct milking procedure; produce good quality milk and avoid waste; breed for better herd replacements and practice disease control methods.

A brief, concise leaflet dealing with one of the eight points was prepared by Extension specialists each month and they were distributed to producers with their milk checks by the cooperatives and milk marketing companies. The eight points were given wide publicity through the press, at meetings, and otherwise.

Labor Priorities—The Director of Extension was named by the U. S. War Food Administrator to serve on the Baltimore Manpower Priorities Committee, set up by the Manpower Commission to consider the assignment of labor to various industries in the Baltimore area. Later he requested the designation of the Regional Director of the Food Distribution Agency in Baltimore be associated with him on this committee. It required considerable time to investigate the various industrial needs, such as fertilizer plants, meat packing plants, bread manufacturers, and other industrial concerns producing products of eminent concern to the production of food.

Later authority was granted for setting up the Modified Area Production Urgency Committee, made up of representatives of Federal agencies. The purpose of this committe was to analyze the production of various industries to determine their priority from the standpoint of urgency for war needs.

Cooperation With AAA—The Extension Service has maintained cordial relations with the Agricultural Adjustment Agency in Maryland. During the period of this biennium, considerable segregation of the activities of that agency and the Extension Service was carried out in line with policies emanating from Washington. The work of the AAA was largely divorced from the county agent offices in the counties and separate offices established at College Park. Notwithstanding a mutual desire for close coordination, it was difficult in many cases to maintain proper working relations in the light of the apparent attitude and policies of the national organization.

In the separation of activities, definite asignment of all educational work was given the Extension Service. Payments under various pro-

grams, loans on crops, subsidies, etc., were assigned the AAA, and also various rationing activities and certification of processors and canners of vegetable crops. In these activities, the specialists of the Extension Service were asked by the Chairman of the AAA to aid committees and give information and assistance in carrying out the programs. This was particularly true in the certification of canneries, which was required in order that they might receive a subsidy and to insure the payment of minimum prices set by the Government for various canning crops.

War Board—A State USDA War Board, and County USDA War Boards, were set up by the Secretary of Agriculture at the approach of war. They are composed of representatives of divisions and agencies of the Federal Government operating in this region and State, and are without farm organization representation. The Director of Extension is a member of the State War Board and County Agents are members of County War Boards. While not agreeable to the policy, the decree of the Secretary was accepted in setting up an organization of this character for handling special war activities. With the clear definition of duties between the Extension Service and AAA by Washington authorities, less importance has attended the activities of the War Board.

Soil Conservation—With the efforts to achieve maximum production of practically all crops, it has been recognized that special attention should be given to conservation of soils and moisture, from the standpoints of both present and future production. Sound conservation measures have been included as a feature of all programs of the Extension Service designed to help increase production.

Conservation Forum—The Extension Service joined with all other State Departments interested in conservation of natural resources in arranging and conducting a State-wide Conservation Forum in Baltimore on April 12, 1944. It was the first attempt to bring together all agencies in an effort to arouse general interest in the conservation of natural resources in all of its phases. More than 1,000 from all parts of the State attended and it is gratifying that rural people constituted a large majority.

War Food Program—Each year a careful analysis of the food situation has been made on a national basis. Then, a state analysis is made of production possibilities as compared with the needs, and definite goals are set, which include acreages of various crops, production of livestock and livestock products, etc, Maryland farmers have met their goals, with the exception of crops curtailed by drought.

A few figures from the reports of County Agents and Home Demonstration Agents indicate the extent to which they have been reaching

the people of the State with their educational programs and information to help in meeting the goals. A feature of the work which in signilcant is the extent to which non-farm people have been served. This is largely the result of help given to people who had victory gardens and in the canning and preserving of farm and garden products.

The Extension agents made 22,045 visits to 11,650 different farms and homes in 1943. There were 115,273 calls made at their offices and 106,461 telephone calls by people seeking information regarding farm and home problems. Local papers assisted in disseminating information by publishing 4,841 articles by the agents and 134 talks were broadcast by radio. In providing the information asked for or desired, agents distributed 115,691 bulletins during the year.

Demonstrations have always been an effective method of Extension teaching. In 1943, there were 5,789 method demonstrations, with a total attendance of 108,396. The Extension Agents participated in 4,197 other meetings, with an attendance of 135,448. The reports showed 54,888 changes in agricultural practices and 40,365 changes in home practices as a result of Extension programs.

Victory Gardens—A campaign was carried on each year to encourage all farm families, and urban families whose conditions would permit, to grow as much as possible of the fruits and vegetables needed throughout the year. Since most farm families were in the habit of having gardens, it meant in their case principally help in producing and conserving more than in normal times. In case of urban families, information was needed on all phases of gardening.

Great emphasis was placed on the necessity for canning, or conserving in some way, the products not used while fresh. The Home Demonstration Agents carried extensive programs of instruction and demonstration in the several methods of conserving vegetables and fruits. They were given hearty cooperation by vocational and public school authorities where canning centers were operated in various sections. As the outcome of efforts by all forces, including the homemakers, a tremendous quantity of food was conserved in Maryland.

Insect and Disease Control—In a time when maximum food production is vital, damage by insects and diseases assumes the status of sabotage. To the extent that resources would permit, extra effort has been given to control activities. Some of the materials known to be effective and used commonly were available only in limited quantities, so that new materials and new methods had to be devised and demonstrated. The large increase in gardens, many of them planted by inexperienced gardeners, called for extra work in control of vegetable and fruit pests. A special control calendar to meet this need

was prepared and distributed widely and a large number of demonstrations were given.

The Japanese beetle program was continued under the State Horticultural Department, with support and cooperation of all infested counties, as well as State and Federal funds. In addition to retarding the increase and spread of the pest and temporary protection of plants, results indicate fine progress in establishing natural enemies in the form of milky disease and parasites.

Other pests of the various crops have been dealt with when they threatened to become serious.

Food Fights For Freedom Program—With a view to impressing people generally with the vital part food plays in winning the war, and the necessity for everyone to produce and conserve to the utmost, the Extension Service joined with the State Council of Defense and other agencies in a State-wide program. The Director of Extension is chairman of a State Committee composed of representatives of farm organizations, women's organizations, Office of Civilian Defense, and others. Similar committees in the counties are carrying the program to both rural and urban people. There is close cooperation between the Extension Service and the OCD in these educational programs.

Looking to Post-War—While putting forth every effort to carry out the many programs essential to or helpful in winning the war, steps have been taken in planning for the post-war period. Out of a conference of outstanding leaders in all fields of agriculture and rural life, a State Post-War Planning Committee was created with the Director of Extension as chairman. It was authorized to set up sub-committees for considering the many phases of the problem. Eighteen sub-committees are studying their respective fields. Their reports will be discussed by rural people and considered by the State Committee in formulating a post-war program for Maryland.

Marketing—At the beginning of this biennium, steps were taken to expand and improve Extension work in marketing farm products. A Coordinator of Marketing Work was appointed and a rather comprehensive program outlined. Conditions incident to the war modified this program decidely, so that most of the effort was in connection with adjustments in marketing procedure to meet the situations, which changed rapidly from time to time.

A substantial part of the educational work in marketing is closely associated with regulatory activities carried on under the State Board of Agriculture. In carrying out regulatory activities, it is the policy to educate those concerned as to the reasons for and desirability of the measures. For example, nearly every inspection of fruits, vegetables, seeds, or other products for certification is a demonstration

in which the value of grading and standardization are emphasized, and the points that make for quality are explained.

There were many marketing problems in connection with the broiler industry, an industry that increased fourfold in four years. Most of these were the outgrowth of regulations and restrictions, shortages of feed, fuel and labor, and the principal service was in the way of information and advice.

The Extension Service was represented on a commission appointed in 1943 by Governor Herbert R. O'Conor to study the Baltimore wholesale fruit and vegetable market with a view to making recommendations for its improvement to the 1945 session of General Assembly.

A marketing specialist has been maintained in Baltimore to promote more efficient distribution of fruits and vegetables. With limited resources, he has been developing a program that has the confidence of growers and distributors and is gradually making its influence felt by consumers.

Women's Activities—The home demonstration program was modified to meet wartime conditions. Homemakers of the State were not only confronted with new problems in connection with their homes, but large numbers helped with the farm work and in carrying out war measures.

Extension workers had a leading part in organizing the State and counties in the nutrition program, which was promulgated as a war measure on a national scale. Home Demonstration Agents served as county nutrition chairman in all counties, and this program had precedence over all other projects. They also taught nutrition classes of the Red Cross, and other groups.

Due to the fact that the homemaker has major responsibility for the family garden in many cases, the Home Demonstration Agents had important part in the Victory Garden Program. The garden campaign was followed by training schools in food preservation, All counties had from one to six schools where leaders were trained to help and give advice on food preservation, whether it was by canning, drying, storage or brining,

The clothing program was shifted to a wartime basis. Rural families were urged to waste nothing, buy carefully and take good care of all clothing on hand. More than 6,000 women and girls each year were helped in making clothes and with problems of care, renovation and remodeling. Demonstrations were given in making work clothes, mending, remodeling, making simple dresses, with special attention to utilizing used garments and materials on hand.

Sewing machine clinics conducted by the clothing and agricultural engineering specialists proved to be of outstanding value. Many sewing machines that had not been operated for years were put into service.

Due to travel restrictions and other conditions, it was necessary to hold a Homemakers' Day in place of the annual Rural Women's Short Course. The fact that more than 1,200 women from all counties overcame the obstacles and attended is evidence of their interest.

Local leaders and neighborhood leaders rendered invaluable assistance and magnified the effectiveness of the Extension workers.

Boys' and Girls' 4-H Clubs—Efficient production and conservation has been the basis of a large percentage of projects carried on by boys and girls. For that reason, their work was readily fitted into the needs of the war effort.

Approximately 9,000 boys and girls were enrolled in definite projects each year. Since practically all of these projects involved production or conservation of food, those who participated in them made a substantial contribution to one of the vital wartime needs. In general, Extension workers helped boys and girls to expand and intensify the lines of work they carried on in peace time. One feature of the work in 1943 was a "Feed-A-Fighter" program, in which awards were made to boys and girls who produced enough food to supply a fighting man for at least a year. Most of the 279 who qualified produced enough food for more that one fighter, one boy producing enough for 17 men.

In addition to their usual lines of work, the 4-H boys and girls proved particularly effective in helping to carry out various war measures in their home communities. Incomplete reports show that in 1943 they collected 764,000 pounds of scrap metal, 84,000 pounds of rubber, and 81,450 pounds of paper, burlap, etc. They helped relieve the farm labor shortage, participated in fire and accident prevention campaigns, repaired farm machinery, took first aid and home nursing, and engaged in local defense activities.

Miscellaneous Activities—Because of their intimate association with rural people, their understanding of their conditions, and the mutual confidence established through the years, the Extension workers in the counties were called upon for leadership in a wide variety of wartime measures. To mention only a few, they included salvage campaigns, information on rationing and restrictions of various commodities, campaigns for care and repair of farm and home equipment, for the use and saving of used containers, for prevention of loss by fire and accidents, for the sale of War Bonds and Stamps. Selective

Service Boards looked to County Agents for advice as to deferment for farm work. In all campaigns and measures affecting rural people, the Extension Agents had a key part.

Cooperating Agencies—Splendid cooperation exists between the State Department of Education, the State Grange, Maryland Farm Bureau, the State Council of Defense, the State Director of the War Manpower Commission, and other State agencies in the prosecution of wartime activities in the production of food. We are indebted to the President and Board of Regents for sympathetic cooperation in the many problems that have developed as a result of the war.

State Horticultural Department

THE State Entomologist, Dr. E. N. Cory, and State Plant Pathologist, Dr. R. A. Jehle, are charged with certain duties and responsibilities under the State Horticultural Department and their activities are coordinated and supervised by the Director of the Extension Service.

Nursery and greenhouse inspection and issuance of certificates required for sale and shipment of products constitute a large part of the regulatory work. In addition to inspection, nurserymen were furnished information on the requirements for interstate shipments as they pertain to the laws of other states, as well as quarantines as they apply to specific pests and diseases, and commodities involved.

There are approximately 280 nurseries in Maryland requiring inspection. To qualify these nurserymen to transact business in this and other states, 1,026 inspection certificates and special tags were issued in 1943.

Inspection under the Japanese beetle quarantine consisted principally of scouting nurseries and orchards to determine whether infestation existed, and inspection and certification of all nursery stock, farm produce, manure and soil moving out of regulated areas. The total number of plants inspected and certified in 1943 was 8,992,678. There were 27,709 certificates issued for movement of plants; 2,108 packages of cut flowers inspected; and 214,433 packages of farm produce inspected and certified.

Orchard Spray Service—Field data on activities of orchard pests and diseases were collected throughout the year and used as a basis for spray calendars and spray cards that were sent to growers for timely applications of sprays. This service has been in use for a number of years and practically all commercial orchardists depend upon it.

Pests of Victory Gardens—Control of insects and diseases are so important in the success of vegetable gardens that the large increase in home gardens demanded extra efforts in that line. Special meetings were held and demonstrations were given before garden clubs, civic organizations, county leaders, and vocational schools. A simplified spray calendar for control of insects in gardens was prepared and 30,000 copies distributed in 1943; about the same number of a calendar for control of both insects and diseases was distributed in 1944.

Field Crop Insects—The European corn borer was unusually abundant in 1943 and caused damage for the first time in many sections of the state. Studies were undertaken to determine the susceptibility of corn varieties to injury; also, whether injury could be avoided by planting dates. Parasitic collection and rearing has been started in cooperation with the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture. Plans call for liberation of 50,000 parasites in 1944.

Other insects of field crops that required attention included flea beetles and leaf hoppers on potatoes, the corn leaf aphid, and the Hessian fly.

Insects Annoying to Man and Animals—Fleas, lice, ticks, flies and mites are among those on which information is most commonly requested. Such household pests as roaches, ants, termites and silver fish are also problems in all sections of the state.

Fruit Insects—The major control effort for insect pests and diseases of fruits was through the spray service, supplemented by other measures when infestation demanded special attention. The fact that a number of materials commonly used in control methods and known to be effective could not be obtained, or were in limited supply, necessitated extra work in both 1943 and 1944 in the line of developing and testing substitute materials. Additional efforts were necessary also to inform growers regarding the use of substitute materials.

Japanese Beetle Control—Organized Japanese beetle control has been in operation for six years. It is designed to establish disease and parasites for the purpose of bringing about permanent relief from acute conditions in heavily infested areas, provide farmers and others with information on control methods useful in giving protection from the pest, and to protect uninfested and lightly infested areas from unwarranted and rapid increases in beetle population. The program is a cooperative endeavor between the State, the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture, and local governmental agencies.

Maryland is a leader in establishing disease and parasites for ultimately reducing Japanese beetle populations. During the four-year

period, 1939-1942, a total of 64,132 pounds of milky disease spore dust was spread on 45,282 colony sites in 11 states and the District of Columbia. Of this total, 44,796 pounds were prepared and distributed in 35,131 colony sites in Maryland. An additional 9,720 pounds of spore dust and 13,925 pounds of inoculated soil were distributed in 7,861 locations in the state in 1943. Up to the end of 1943, a total of 556 colonies of two special of Typhia wasps and 105 colonies of a nematode were released in the state.

Surveys show that beetle populations are being decidely reduced by the milky disease and parasites in areas where they are established.

Traps have had a prominent part in Japanese beetle control. Approximately 150,000 traps have been leased to the public during the last five years. It is estimated from incomplete reports that well over 2,000,000 quarts, or over 10,000 barrels, of beetles have been destroyed.

Other control and protective methods include spraying, planting crops at less favorable dates for beetle injury, and the use of plants not fed upon so readily by the beetles.

Inspection of Apiaries—The inspection service operated with only 7 of its original 11 inspectors, due to men entering armed forces. They inspected 458 apiaries in 1943, with 3,546 colonies. The average of 1.3 percent infection for the colonies inspected is considered good in comparison with the rate in some states, but can be reduced further.

The demand for bees for orchard pollination increased decidely and most large orchardists who do not own colonies of bees rent them annually.

Potato Inspection and Certification—White potatoes and sweet potatoes were inspected and certified under authority of the Maryland Seed Certification Board. In 1943, there were 43,112 bushels of white potatoes and 1,395 bushels of sweet potatoes eligible for certification.

Strawberry Inspection and Certification—The red stele disease of strawberries was found in Maryland in 1936. It was a serious threat to the important nursery plant business of the Eastern Shore, where more than half of the plants sold in the northern United States are grown.

By rigid system of inspection and with cooperation of all strawberry nurserymen, red stele has been controlled to the point that it is now of minor importance.

A breeding program to develop red stele resistant varities for berry growers is in effect. Since 1938, over 20,000 hybrid strawberries have been bred and tested in cooperation with the U. S. Department of

Bang's Disease—The Bang's disease program has been greatly influenced by the need for increased milk production and better financial returns to dairymen. Many infected animals have been allowed to remain in herds at the instance of the owner, even though this procedure means a decided backward movement in eradication. A redeeming feature is the continued expansion of calfhood vaccination.

Calves may be vaccinated on premises where no testing of mature animals is being done. This has been instituted with the idea that within the next several years a large number of vaccinated cattle will be available for replacements when economic conditions dictate to owners the slaughter of mature infected animals.

There are now 4,121 herds containing 70,993 cattle classified as Bang's disease-free accredited. There are 20,086 herds containing 94,339 cattle tested under State and Federal supervision, and 2,747 herds containing 22,689 cattle under the test of private practicing veterinarians. Indemnity payments have been made on 3,940 reactors, out of a total of 4,210 reactors slaughtered, A large number of reactors were sent to slaughter in the general culling program.

The number of calves vaccinated is increasing each month. During the first part of the period, the rate was about 750 per month. It has increased to about 1,200 per month.

During the current period, distribution of Federal vaccine for use of practicing veterinarians was discontinued. Official State and Federal veterinarians were furnished the Federal vaccine for use in herds of the state. In order to increase the number of calves vaccinated, commercial vaccine has been purchased by the Live Stock Sanitary Service for distribution to practicing veterinarians, so that the cost to the individual owner may be reduced. Since April 1, 1944, 3,554 doses of vaccine have been distributed.

Mastitis—Without doubt, this disease of the udders of cows is the greatest cause of loss to the dairy industry at present. Proper designation of the causative agent in a particular outbreak is the basis for any program of control. The diagnosis can be made only by bacteriological examination of milk samples from the animal. During the biennium 16,958 milk samples were examined.

Pullorum Disease—There has been a constant increase in amount of pullorum disease testing, with a corresponding decrease in the percentage of infection in flocks tested. During the 1942-43 season, 1,734 flocks containing 656,518 birds showed an infection rate of 3.05%, and in 1944 2,340 flocks containing 942,695 birds were tested with 2.8% infection. It will be necessary to further reduce the infection rate if Maryland hatcheries are to compete with those of New England.

Rabies—In 1943, the disease was introduced in Montgomery and Prince George's counties.

Agriculture. In 1943, the red stele resistant Temple variety was introduced as a result of this work and several other promising selections are being tested.

White Pine Blister Rust—This disease has been found in all counties where white pine grows naturally, or has been planted extensively. In cooperation with Federal agencies, these areas have been designated as blister rust control areas, and shipment of currents, gooseberries, and other ribes plants is prohibited. During the last two years, 934 requests for permits for shipment of such plants were received, of which 404 were refused.

Tobacco Disease—Reasonably effective methods have been developed for controlling diseases that attack tobacco plants in seedbeds, in the field, and after the crop is placed in the barn. Use of sprays, gas, sterilization of seedbeds, and development of disease-resistant varieties and strains are among the methods of attack. Types of barn construction, ventilation and application of heat at the proper curing stage, together with the organisms concerned, are being studied in an effort to reduce the loss from house-burn.

Live Stock and Sanitary Service

A. L. BRUECKNER, *Acting Director*

ACTIVITIES of the Live Stock Sanitary Service were continued in full force during the period October 1, 1942 through June 30, 1944, despite numerous changes in personnel and other conditions affecting certain fields of disease control and eradication. Since activities were increased.

In September, 1943, Dr. Mark Welsh, who had been Director for a number of years, resigned. Several other veterinarians resigned during the period and their positions were filled with men who had recently graduated from college. It will take some time for these men to gain sufficient training and experience to adequately fill the vacancies.

Tuberculosis Eradication—Testing has been done by accredited veterinarians in 14,564 herds containing 305,477 cattle, and 143 reactors have been found and removed. Under State and Federal supervision, 7,975 herds containing 76,006 cattle were tested, and 335 reactors removed and slaughtered. Reaccreditation of counties as modified tuberculosis-free areas has been completed in 14 counties; namely, Allegany, Caroline, Carroll, Cecil, Charles, Dorchester, Frederick, Harford, Montgomery, Prince George's, Queen Anne, Somerset, Washington and Worcester.

Regulations against introduction of cattle not properly tested for tuberculosis are still in effect.

During the first six months of 1944, rabies was found in a number of counties

Quarantines were placed in virtually all cases covering a period of 90 days. In several counties the period was extended, sometimes for more than a year. Enforcement was left to local county authorities.

A vaccination program was carried out in Montgomery county, in which the Live Stock Sanitary Service agreed to furnish vaccine if local officials would set up a system for vaccination and strict enforcement. Local veterinarians did the work and were paid by the County Commissioners. In a two-weeks' period, 9,500 dogs were treated. These, with about 1,200 vaccinated prior to the free period, are at least 90% of the dogs in the county. Results to date indicate that rabies in Montgomery county has reached an insignificant incidence.

As a result of this program, a similar system has been adopted and is now in progress in Prince George's county.

Other Diseases—Control and eradication programs have been established on numerous other diseases and conditions causing losses in Maryland herds and flocks. Field veterinarians concern themselves mainly with the definite programs, but also assist herd owners and local veterinarians in diagnosis and outline control measures. The function of the State men is cooperation with local veterinarians and herd and flock owners. Treatment of individual animals or herds is not undertaken except where information can be gained which will be of value in future procedures. Among the diseases which appear to be increasing in prevalence and importance are listerellosis of sheep, goats, cattle and other species; encephalitis of horses; infectious anemia of horses; and fowl typhoid of chickens and turkeys.

Importation and Exportation of Cattle—Movement of beef cattle out of the state and into the state was virtually equal, being in the neighborhood of 1,650 animals. Exportations of dairy cattle have been at a higher rate than importations, with about 5,000 animals sent out and 4,000 brought in. All animals shipped out of, or into the state were moved under health regulations, or in some instances, under special permit to suit certain local requirements.

Live Stock Conservation—The Live Stock Sanitary Service is joining with other agencies in a concrete program of live stock conservation. Preliminary meetings have been held with Dr. Fred Leinbach of the National Live Stock Conservation Committee, and representative Maryland breeders and others.

Laboratories—The branch laboratories at Salisbury, Centerville and Baltimore, and the main laboratory at College Park operated on a larger scale, despite difficulties in personnel, equipment and supplies.

The bulk of the diagnostic work at Salisbury has been in the line of poultry diseases; in the Baltimore laboratory virtually nothing but blood samples for Bang's disease and pullorum disease have been examined; the Centerville laboratory has had a greater variety of work; and the main laboratory at College Park has been called upon for all sorts of diagnoses on various tissues and specimens.

In the case of Bang's disease, all laboratories examined 120,495 samples from herds under State and Federal supervision, and 105,179 samples from herds under State supervision alone. The number of milk samples examined for mastitis was 16,958, and 1,599,213 examinations were made in pullorum disease work. Other specimens, consisting of carcasses for autopsy, urine samples, and a great variety of other tissues and specimens, to the number of 23,435 were studied. The grand total of examinations for the biennial period is 1,865,280.

Establishment of a branch labortatory in the western part of the state and provision of greater facilities at Salisbury have been contemplated. Further consideration should be given when it is possible to secure personnel and equipment.

Hog Cholera—The hog cholera control and eradication work in Maryland is in cooperation with the Bureau of Animal Industry of the U. S. Department of Agriculture. Two field men are assigned to this state, one at Salisbury and the other at Hagerstown. They function as specialists on hog diseases and assist practicing veterinarians and owners. There are available, also, the field men and laboratory staffs of the Live Stock Sanitary Service.

During the biennium, 364 outbreaks were recorded officially, involving 9,109 animals, 1,252 of which were sick and 979 dead at the time of investigation. Recommendations were made as to procedures on the farms; that is, whether to use serum and the follow-up sanitary measures which can be used to prevent recurrence of the disease. Suggestions were made as to management, care and feeding, particularly in rgard to mineral supplements.

Anti-hog-cholera serum and virus are made available readily for owners and veterinarians. Depots in Salisbury, Baltimore and College Park take care of orders. During the period, the Biological Laboratory distributed 1,961,700 c.c. of serum and 3,745 c.c. of virus. It also produced and distributed 38,180 c.c. of tuberculin.

Research—The functions of the Live Stock Sanitary Service would not be fulfilled through diagnoses alone. Diagnostic work, whether it be in the laboratories or in the field, presents leads for futher study and research. In the main, this is conducted in connection with the Maryland Agricultural Experiment Station, with State or Federal funds. Other studies are conducted at the expense of the Sanitary Service.

There have been during the biennium research projects on calfhood vaccination and Bang's disease, field studies in the treatment of infectious mastitis, the preparation of avirulent vaccines for use in virus diseases of poultry, the diagnostic treatment and control of trichomoniasis in cattle, and studies in fowl cholera.

Teaching—Members of the staff conduct classes for agriculture and special students at the University of Maryland. Subjects deal with domestic animals and poultry and cover anatomy, physiology, and hygiene.

Sales, Field Days, and Shows—It has been the policy for a number of years to furnish a representative at sales, so that inter-state health certificates may be available readily for animals being moved out of the state. All field days and shows of the breed associations have set up health regulations at the suggestion of the Service, and a representative is present and passes judgment on the health status of animals to be allowed in the show.

State Inspection and Regulatory Service

(Feeds, Fertilizers, Limes, Insecticides and Fungicides

LESLIE E. BOPST, *State Chemist*

THE State Inspection and Regulatory Service is charged with enforcing the various provisions of the Feed, Fertilizer, Lime and Agricultural Insecticide and Fungicide Laws. Born of a definite public necessity, these laws continue to be actively enforced because that necessity still exists. Briefly, inspection activities consist of the annual registration of brands, sampling of products in the hands of dealers and manufacturers, analyzing samples in the laboratories, publishing results, and prosecution of violators.

An inspection organization is distinctly regulatory. Its research activities are limited to those made necessary by the demands of law, and its service work is entirely incidental to the regulatory operations.

Regulatory operations are rather difficult to present in the form of an official report. A completed regulatory project is practically unknown. Forms of violations apparently checked have a disconcerting habit of reappearing and calling for renewed activity. A statement including the number of samples collected, samples analyzed, prosecutions instigated, etc., illustrates certain features of the inspection work, but does not disclose in its entirety the actual progress made in improving the quality and honesty of the feed, fertilizer, lime and insecticide supplied to residents of Maryland. Many visits are made

to individual plants which often result in elimination of bad factory practices and improvement in the quality of material produced. This report, therefore, must be largely restricted to matters which are typical of work performed and indicative of the trend in the industries subject to control.

Past years' enforcement activities have clearly demonstrated that an indiscriminate sampling of agricultural products, while it may, by the law of averages, reveal numerous violations, leaves much to be desired in the way of public protection. It has also been noted that if legal development against every definite violation encountered were attempted, without regard to its significance from animal health or economic viewpoint, the Department would promptly be involved in a mass of more or less trivial actions, while serious violations from consumers' viewpoint would proceed unchecked. On the other hand, it has been demonstrated that it would be entirely possible, as well as profitable, to devote all time and funds to the supervision of one small part of each industry. Obviously neither course of enforcement procedure is in the best interests of the public.

The method of enforcement developed, therefore, is known as the project plan. It is not a new policy, nor one that is original in Maryland. It has been used for some years by the Federal Security Agency in connection with enforcement of the Food and Drug Act. It was found that a cooperative policy with the industries regulated, using prosecution as a necessary adjunct where educational measures failed, offered the most effective means of affording maximum protection to consumers. Our activities are therefore confined in those directions where past experience has indicated that the greatest amount of disturbence has ben found. There are certain products which by reason of their peculiar adaptability for adulteration or misbranding, or their high market value, offer particularly fertile fields for sophistication. Taking into consideration limited facilities and the vast scope of the industries regulated by the Department, it is necessary to keep under constant surveillance the materials and the products which are marketed by that small percent of manufacturers who have neither the propriety nor the vision to produce a commodity which will meet the requirements of the laws. The products of reputable manufacturers are inspected occasionally during the year to ascertain if they are being kept up to the standard of former years and no change in production or policies is brought about by a change in management or from any other cause. Products of the other manufacturers, which are but a small percent of the total, are placed under intensive inspection. The products of such manufacturers are sampled as often as possible, and when needed, corrective methods are supplied. This intensive surveillance tends to bring about an improvement of such concerns and reacts for the betterment of the industry as a whole.

FEEDS	Oct. 1 to Dec. 31, 1942	Jan. 1 to Dec. 31, 1943	Jan. 1 to July 1, 1944	Totals
Samples collected by Inspectors	242	2,065	1,219	3,526
Samples forwarded by Md. residents	102	124	138	364
Samples of Cod Liver Oil Collected and tested	5	18	18	41
Licenses issued (brands licensed)	513	2,468	2,119	5,090
Feed prosecutions instigated	1	30	20	51
FERTILIZER				
Samples collected by Inspectors	123	894	548	1,565
Samples forwarded by Md. residents	17	65	34	116
Licenses issued (brands licensed)	41	653	537	1,231
LIME				
Samples collected by Inspectors	19	122	71	212
Samples forwarded by Md. residents	8	37	14	59
Licenses issued (brands licensed)	34	117	121	272
INSECTICIDES				
Samples collected by Inspectors	----	378	321	699
Licenses issued (brands licensed)	313	923	455	1,591
Total number samples collected by Inspectors				6,002
No. samples forwarded by Md. Residents				539

It will be noted that from October 1, 1942 until July 1, 1944, 6,002 official samples were collected by state inspectors and analyzed by chemists employed in state laboratories. In addition to the chemical examination, all samples of feed were subjected to supplementary microscopical examination to ascertain whether the manufacturer's declaration of ingredients represented the composition of the feed in the bag. Five hundred and thirty-nine (539) samples of agricultural commodities were also tested for purity and quality at the request of residents of the State. Every effort is made to arrange official duties so that reports covering correspondents' samples are returned not later than 10 days after the sample is received. This constitutes a useful public service for which the Inspection Department is the recipient of much favorable comment.

From the examinations of official samples, 51 major violations were detected, mainly on the part of cut-of-state shippers. These violations involved protein deficiencies in dairy and poultry feeds; adulteration of soybean oil meal with ground limestone, substitution of alfalfa stem meal for alfalfa meal; adulteration of cottonseed and peanut meal with appreciable quantities of hulls.

These violations were prosecuted in the courts and $2,245 in fines were assessed. The products involved were removed from the market properly labeled. This service not only protects the consumer from fraud but the honest manufacturer from unfair competition.

From October 1, 1942 to July 1, 1944, 51 samples of materials sold for their Vitamin D potency were biologically assayed in the state laboratories. Of this number, 4 were found not to meet label representations. Maryland is one of the few states in the Union which renders its feed buyers this highly specialized service.

During the period covered by this report, analytical work, especially that applying to feeds was considerably extended. Tests for carotene in alfalfa meals and riboflavin assays on various ingredients were inaugurated. The testing of feeding materials for moisture, sugar and Brix reading were added as a routine activity. The increased use of inorganic sources of phosphorus made it advisable to ascertain the flourine content of mineral supplements to make sure that flourine is not present in an amount exceeding toxic levels. These new activities will be continued, as they are considered necessary to the maintenance of a sound regulatory program.

This regulatory organization is required by law to publish in bulletin form the records of inspection on the various commodities examined. From October 1, 1942 until July 1, 1944 seven publications were edited and distributed covering all materials coming within the purview of the statutes enforced. Publication of these statistical data was supplemented with such comment and discussion as was deemed helpful to those particularly interested. It has been found that certain of these publications are being used to supplement text books in agricultural high schools. They are also being used as references by Agricultural Experiment Stations. Their popularity is well evidenced by the requests received for copies and the favorable comment noted in newspapers, agricultural journals and the farm press.

Biennium Report of the College of Arts and Sciences

J. F. PYLE, *Acting Dean*

THE College of Arts and Sciences has continued to perform its major functions under somewhat difficult conditions during the last biennium. The impact of the war has been very severe in its effect upon civilian student registration and on the teaching and administrative personnel. The College lost the services of the Dean of the College, Dr. Levin Bowland Broughton and the Head of the Department of English, Dr. Charles Brockway Hale through death.

These losses were severely felt by the College and by the University. In spite of these handicaps and difficulties, however, the College has been able to meet the major needs of the University in furnishing basic instruction in the Humanities, Social Sciences, Biological Sciences and the Physical Sciences; work for the pre-professional curriculums, predental, premedical and prenursing has been maintained on the usual high level; and it has been possible to furnish satisfactory direction of graduate studies given in Arts and Sciences. Some of the departments, especially Bacteriology and Chemistry have cooperated with the Government by carrying on highly important and confidential research work having to do with the war effort,—some of the members of the faculty have been loaned to governmental agencies in order more effectively to carry on civilian research projects. The faculty members of a number of departments carried excessively heavy teaching loads during the last year in order to furnish instruction to the military students sent to the University under the Army Specialized Training Programs.

The reduction in teaching personnel and the decreased enrollment in civilian students, both due to the war work, made necessary a reduction in the number of courses offered in some departments, in a few instances it was advisable to discontinue all offerings for the duration, viz., in the departments of Art, Philosophy and Geology. The number of courses offered in Political Science, Sociology, English, Physics, Zoology and Bacteriology were considerably reduced.

In July 1943 the University went on the quarter system, instruction being furnished throughout the twelve months of the year divided, for administrative purposes, into four quarters of twelve weeks each. The change from the semester to the quarter basis was made in order to meet more adequately the needs of the Army Specialized Training Program.

The College, through the adjustments in curriculums, courses, personnel, and organization outlined above, has been able to carry on in an effective manner and at a considerable reduction in operating costs.

The University, similarly to industry, will face a challenging problem of "reconversion" when the war is over. The faculty and the administration is keenly aware of these problems and are taking adequate measures to meet the needs when they arise.

Some of the effects of the war on the College Faculty: The teaching personnel of the College numbered 135 in October 1942, by June of 1944 the number had decreased to 80, a decline of 41%. Sixteen faculty members have joined the armed forces, seven have gone into war work and a few have resigned to accept higher paying positions in other institutions.

Student Enrollment: The changes in civilian and soldier enrollments indicated in the following table suggest some of the problems that had to be met during the biennium in adjusting courses, personnel and space in order to meet the demands made upon the College.

Fluctuation of Student Registration

Period	Civilian Students	Army Students	Total
Fall Semester, 1942-43	1,069	-------	1,069
Spring Semester, 1942-43	833	-------	833
Summer Quarter, 1943	423	929	1,352
Fall Quarter, 1943	787	1,107	1,894
Winter Quarter, 1944	706	929	1,635
Spring Quarter, 1944	636	168	804

It will be noted that there was a rather regular decline in civilian students registration from a high of 1069 in the Fall Semester of 1942 to a low of 636 in the Spring Semester 1944, a decline of approximately 41% which incidentally is the same percentage of decline as occured in the number of faculty members. The fluctuation in the number of soldiers has presented problems in providing teaching personnel. The solution was found through securing some temporary instructors who could be released as the number of soldiers in attendance declined.

Post War: It is expected that when the European phase of the war is finished that there will be a large increase in registration in the College. These students will be returning veterans, young men and young women whose university education has been interrupted either directly or indirectly because of the war, and the normal number of high school graduates who will want the traditional cultural education usually offered in a College of Arts, others will want the work offered in the pre-professional curriculums, still others will want more specialized courses and curriculums that will prepare them for specific careers in social work, government, business, and the home. The College is making adequate provisions to furnish the people of the State the kind of educational services that may be expected from a tax supported institution of higher education.

College of Education, and Summer School

University of Maryland

ARNOLD E. JOYAL, *Acting Dean*

THE period from October 1, 1942 to July 1, 1944 has been one of retrenchment and declining enrollments, the result of war.

Enrollments and Teacher Placements

During the biennium the College of Education total average undergraduate enrollment at College Park dropped about fifty per cent. The following tabulation for the Spring Quarter of 1944 indicates that the total enrollment was 424. The corresponding figure for the Spring Semester of 1942 was about 800.

Enrollments in the Several Divisions of the College Spring Quarter, 1944.

College Park

Graduates	19
Seniors	13
Juniors	22
Sophomores	31
Freshmen	46
Special (part-time)	22
Total	153

Baltimore*

Baltimore Division		
Undergraduates	87	
Graduates	24	
Calvert Distillery	24	
Aberdeen and Edgewood	100	
Princess Anne Division	36	
Total	271	
Grand Total		424

*All Baltimore students are part-time students, most of them teachers in service.

At College Park the trend of enrollments is clearly shown by the following data for three enrollment periods.

Undergraduate Enrollment at College Park

Year	Fall 1942			Fall 1943			Spring 1944		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Senior	25	28	53	4	14	18	1	12	13
Junior	18	27	45	2	22	24	1	21	22
Sophomore	26	22	48	3	32	35	3	28	31
Freshman	45	44	89	16	37	53	11	35	46
Unclassified	—	1	1	—	—	—	—	—	—
Part-time	5	69	74	4	9	13	—	22	22
Total	119	191	310	29	114	143	16	138	154

The most interesting phenomenon from the standpoint of an adequate supply of secondary teachers is the decline in number of Maryland students placed in teaching positions in Maryland. Although the graduates of the College of Education have been qualified to teach, each year they have chosen other pursuits in larger numbers. In 1942-43 only about forty per cent of the Maryland graduates took teaching positions in Maryland; in 1943-44 the percentage dropped below twenty-five. In 1938-39 it was seventy-five per cent.

It should be noted, in connection with the above data, that more students were qualified and placed in positions than these figures show. There were other students from the District of Columbia and from out-of-state also trained and placed. They are not included. Also, teachers placed in the district or out of state are not included in the tabulation.

Part-Time Enrollment in the Evening Division

Part-time students in the College Park Division have declined in numbers almost to the point of elimination of the afternoon and evening program. In 1941-42 there were 306 part-time students and classes were held at several off-campus centers. With the advent of gasoline shortages and, more important, with the change in policy of the state department of education which no longer requires college work for renewal of certificates, the enrollment dropped to 22 in the spring of 1944. Ten of the 22 students were enrolled in a class which met in Frederick. Classes, previously held at Cumberland, Easton, Charlotte Hall, Annapolis, and Salisbury, failed to materialize.

Enrollment in the Baltimore Division

Most of the students enrolled in the Baltimore Division are part-time students. Enrollments in Baltimore (not including the Calvert

and Edgewood programs) dropped from 255 in 1941-42 to 147 in 1943-44. The City of Baltimore, which has its own certification standards for teachers, did not follow the practice adopted by the state department of declaring a moratorium on teacher education-in-service, but other factors, such as increased opportunities for employment, operated to limit enrollments.

During the biennium two new programs have been initiated. At the request of the Calvert Distilling Company an evening program was established with classes meeting at their plant at Relay. In 1942-43 the enrollment exceeded 100 but in the Spring Quarter of 1944 the enrollment was 24. Similarly, a program was established for federal government employees at Aberdeen and Edgewood with classes meeting in both places. The enrollment in the latter places in the Spring Quarter of 1944 was exactly 100.

Graduate Work in Education

In graduate work, the faculty of the College of Education functions as a department of education in the Graduate School. During the period 1942-43 the largest number of masters' degrees ever granted in Education was awarded. There were 39. During this period two degrees of doctor of philosophy were granted, the first ones ever awarded in Education. These numbers reflected the growth which the college had been making during the period from 1940 to 1942. In 1943-44 a total of 23 masters' degrees were awarded. The numbers will probably be small for the next year or two because relatively few students are beginning a graduate program. In the Spring Quarter, 1944, only 43 graduate students were enrolled.

Teaching Personnel

The personnel of the college has shrunk and changed considerably during the biennium. During the entire period Dean Harold Benjamin and Professor Harold Hand have been on military leave. Professor Arnold E. Joyal has served as acting dean. Associate Professor Alvin W. Schindler was appointed on February 1, 1943, and has served since that time. Instructors Kathleen Smith, George Kabat, and Gladys Wiggin resigned. Mr. Kabat joined the army, Miss Wiggin entered the Signal Corps as a civilian employee. Miss Alice Zerbola and Miss Mabel Carlson have since served as instructors but both resigned on June 30, 1944. Miss Marie Bryan was appointed instructor on September 1, 1942 and is currently employed. Assistant Professor Ralph Gallington was granted a leave of absence on March 1, 1944. As of July 1, 1944, the College is operating with a staff which is equivalent to four full-time instructors less than on July 1, 1942, with two secretaries instead of three, with no graduate assistants, and, of course, with a much smaller part-time instructional staff and a considerably reduced budget.

Plans for a Post-War Program

There have been some bright spots during the biennium despite the war conditions. The curricular program of the college has been revised and improved. The guidance program and counseling service, already in operation, has been strengthened and tested in practice. A reading Clinic for college students has been established and has operated successfully for two quarters. The faculty has been studying plans for post-war educational programs and has met with representatives of the State Department of Education and with Deans from Western Maryland College to plan for a broadened teacher-education program. The staff has cooperated with officials of the state teachers association in an attempt to stimulate further growth in the association and the influence on public education. In general, the college has been trying to anticipate and prepare for the post-war periods.

Summer Session

The regular summer session, mainly for teachers, operates on a separate budget but is administratively a part of the work of the College of Education. Enrollments and staff have been relatively low.

Needs of the Department

With the advent of peace there will be a great upswing in enrollments. This prospect is so apparent as to need little explanation or justification. The vast shortages in the supply of qualified teachers will be filled. The certifying agencies will begin to require in-service training once more. Persons who have delayed beginning their graduate work will start their programs for the master's degree. Some emergency teachers who have taught without certificates will decide to become certificated and to continue teaching. Many ex-service men and women will enter college under the "G. I. Program." It is not unlikely that within two years the problem of excessive enrollments will be as great as the present problems of declining enrollments.

The College of Education is now operating with an absolute minimum staff. The instructor's teaching load in terms of hours taught is heavy. Class enrollments and number of courses offered are low. As soon as enrollments begin to increase, which will be soon and perhaps within the current academic year, the college will have to expand in several ways. Immediate needs of the college will then be:

1. At least 6 full-time instructors, including the several persons who are on leave.
2. Additional office space for new instructors.
3. Improved classroom facilities in the Education Building—better blackboards, an improved seminar room, more and better equipment.

4. Resumption of provisions for two or more graduate fellowships for superior students to assist instructors with routine work.
5. Additional secretarial help—a second person in the College Park office plus part-time help.
6. A larger budget item for operating expenses.
7. Provision through program and budgetary allowances for closer contact with the schools of the state, that is, increased time and travel funds to make possible visits to the schools, attendance at county teachers meetings, etc.
8. A film library service such as is maintained by many state universities. Such a service might be operated through the College of Eduation, the Extension Service, or a special agency set up for the purpose.

It is the feeling of members of the College of Education staff that a great opportunity for expanded service to the schools and children of the state and nation is "just around the corner." The College hopes to be ready to meet the challenge.

College of Engineering

S. S. STEINBERG, *Dean*

THE period covered by this report has been one of unprecedented activity in the College of Engineering. Each department was so reorganized as to offer full cooperation and maximum service to the State, to the Nation, and to industry to help win the war in which we are engaged.

Student Enrollment

Commencing with the reorganization of the College of Engineering in 1936, when its total student enrollment was 306, the enrollment continued to increase steadily each year until it reached a maximum of 743 in October, 1942, an increase of more than 131 per cent in the six year period.

With the intensification of national war activities in the fall of 1942, and the increasing need for men in the armed services, changes in the Selective Service regulations permitted fewer and fewer deferments for students in engineering colleges despite the fact that men with engineering training were acknowledged to be vital to military success. As a result of this situation, our enrollment in engineering decreased.

In October, 1943, we began instruction under the Army Specialized Training Program, which included classes for training advanced engineers in Civil, Electrical, and Mechanical Engineering. Additional changes in Selective Service regulations limited civilian students in

engineering colleges to those who could complete their training for a degree by July, 1944. As a result, the total enrollment in the College of Engineering for the academic year 1943-44 was 535, which included 159 Army advanced engineers. While the normal program of classes decreased, the war-service activities of the College of Engineering have grown and multiplied.

Engineering, Science and Management War Training

The Engineering, Science and Management War Training program offered throughout the State in cooperation with the U. S. Office of Education, increased in scope and effectiveness throughout the period covered by this report. These short intensive courses of college grade, and essential to the war effort, were offered in Collge Park, Baltimore, Aberdeen, Hagerstown, Cumberland and in Washington, D. C. Our program has been in continuous operation since December, 1940, and to date the College of Engineering has trained 9,223 men and women for war industry and for the Army and the Navy. The largest group of men and women were trained for 80 Maryland industrial firms, notably for the aircraft and radio industries.

More than $400,000 has been received from the U. S. Office of Education for conducting these courses, and of this amount, about $30,000 has been spent on purchase of equipment which will become the property of the College of Engineering. The staff of instructors, in addition to members of our engineering faculty, included qualified persons serving with the war industries for which the students were being trained. The officials of war industry throughout the State have shown their appreciation of the program by their increased interest in it and even by their personal solicitation of their employees for our courses.

These courses have given a new impetus to adult technical education for industry in Maryland and have brought our College of Engineering into the field of in-service and refresher training on the college level.

Civil Aeronautics Pilot Training Program

During the period covered by this report, our program of training flyers for the Civil Aeronautics Authority was expanded to include a full-time project. Under this new program we trained for the Army and the Navy 214 flyers for air transport service. With the military prohibition against the use of civilian planes on the eastern seaboard, we utilized airports located at Frederick, Maryland, at Winchester, Virginia, and at DuBois, Pennsylvania.

On July 1, 1943, the Civil Aeronautics Authority discontinued its practice of having colleges train flyers. From the inception of the program in the fall of 1939, to the date of its discontinuance, our

College of Engineering had trained a total of 487 men and women, both civilian and military, in elementary and in advanced classes.

Department of Chemical Engineering

The most important development in this department was the accrediting of its curriculum on October 18, 1942, by the Engineers' Council for Professional Development, following inspection by a committee representing that ogranization. This action gave early and deserved recognition to our newest engineering department, which began accepting students with the opening of the academic year 1937-38, and brought our College of Engineering to fully accredited status in all departments.

This department has been actively engaged in many war projects, through cooperation in research and through consulting services. Some of the activities of this department are indicated by the following appointments received by Dr. W. J. Huff, Chairman and Professor of Chemical Engineering, during the period of this report:

Consulting Explosive Chemist, U. S. Bureau of Mines, in charge research and routine studies of explosives, gaseous explosions, and Diesel engines underground; also in charge disaster investigations under the Federal Explosives Act, and technical investigations for the armed forces.
Member, Mine Safety Board, U. S. Bureau of Mines.
Chairman, Joint Army, Navy, Bureau of Mines Board of the Storage of Smokeless Powder.
Member, Major Disaster Panel, Black Powder Committee, and Pyrotechnics Committee, Safety and Security Branch, U. S. Army Ordnance.
Member, Chemical Committee, and Gas Conditioning Committee, American Gas Association.
Member, Research Committee, Engineerng College Research Association.
Member, Research Committee, Society for the Promotion of Enginering Education.
Member, several sub-committes of the American Society for Testing Materials, relating to the Examination of Gaseous Fuels.
Member, Special Board appointed by the Director of Safety, Safety and Security Branch, Army Ordnance, to investigate the May 4, 1943, major disaster at Triumph Explosives Company, Elkton Maryland.
Member, Special Committee of the U. S. Bureau of Mines, for examination of certain hazards connected with war studies at the California Institue of Technology, Pasadena, California.
Consultant to Acetylene Generator Task Committee, War Production Board.

Department of Civil Engineering

This department continued its cooperation with State and Federal departments and with many private organizations. Its relations with the National Sand and Gravel Association, whose testing and research

laboratory are located adjoining our Testing Materials Laboratory were particularly strengthened by greater cooperation in research. The agreement between the University and this Association was re-- cently extended to include a program of research for the National Ready Mixed Concrete Association.

Other activities of this department are best indicated by the following appointments and elections received during the period of this report by Dean S. S. Steinberg, Chairman and Professor of Civil Engineering:

Regional Representative, Engineering, Science and Management War Training, U. S. Office of Education, for Maryland, District of Columbia, Virginia, West Virginia and North Carolina.

President, Planning Division, American Road Builders' Association.

Secretary, Engineering Section, Association of Land-Grant Colleges and Universities, and Editor of its "Engineering Experiment Station Record."

Chairman, National Capital Section, Society for the Promotion of Engineering Education.

Vice-Chairman, Division of Administration Officers of Engineering Colleges, Society for the Promotion of Engineering Education.

Member, Naval College Selection Committee for Maryland, by appointment of Secretary of the Navy.

Engineer Advisor, State Aviation Commission of Maryland.

Member, Advisory Committee on Engineering, National Roster of Scientific and Specialized Personnel, War Manpower Commission.

Consultant, Army Specialized Training Program, Military District of Washington, War Department.

Educational Consultant, U. S. Bureau of Prisons, Department of Justice.

Member, Editorial Advisory Committee of "Journal of Current Engineering Research" of Engineering College Research Association.

Member, Executive Committee, Surveying and Mapping Division, American Society of Civil Engineers.

Member, Committee on Research, American Concrete Institute.

Department of Electrical Engineering

The work and contacts of this department have expanded considerably during the past two years. Much equipment has been purchased, research work has been inaugurated, and new classes organized to keep apace with the many recent developments in the field of electricity. Particular attention has been given to work in electronics and associated circuits in which remarkable progress has occured under the impetus of war activity. Research work has been undertaken in this field and graduate courses offered to employees of the Naval Research Laboratory and of war industries.

Special services were rendered by this department in the testing of electrical apparatus for both the Army and the Navy.

Other contacts of this department are best indicated by the following activities of Professor George F. Corcoran, Chairman and Professor of Electrical Engineering:

Member, National Committee on Education, and National Panel on Symmetrical Components, American Institute of Electrical Engineers.

Supervisor of Radio Courses for Engineering, Science and Management War Training at University of Maryland.

Consultant, College of Electronic Medicine, San Francisco, California.

Published second edition of the textbook, "Alternating Current Circuits."

Prepared new two-volume work on "Experimental Electrical Engineering."

Department of Mechanical Engineering

The developments in this department were particularly related to war work. These included the completion of the aeronautical laboratory, the installation of metallography laboratory, the conduct of research projects for the National Advisory Committee on Aeronautics, and the operation of the headquarters of the Aviation Division of the American Society of Mechanical Engineers now located on our campus.

To meet the teaching needs of the Army Specialized Training Program, the Hydraulics Laboratory and the Internal Combustion Engines Laboratory were expanded.

The other contacts of this department are indicated by the following activities of Dr. J. E. Younger, Chairman and Professor of Mechanical Engineering:

Member, Guggenheim Medal Award Board.

Member, Structures Committee of the National Advisory Committee for Aeronautics.

Member, Executive Committee, Washington Section of American Society of Mechanical Engineers.

Aviation representative of the American Society of Mechanical Engineers at the Institute of the Aeronautical Sciences.

Member, War Department Committee on Army Specialized Training Program Aviation courses.

Continued as Executive Secretary of the Aviation Division of the American Society of Mechanical Engineers.

Responsible for soliciting and obtaining the publication of 117 engineering research papers on aviation during period of 1942-44; and organized and conducted eight aviation engineering meetings during same period.

Published second editons of the text-books, "Mechanics of Aircraft Structures" and "Airplane Maintenance."

Fire Service Extension Department

Due to the hazards incident to war, the scope and activities of this department have been greatly expanded.

Chief J. W. Just, Director, served as Director of State Fire Defense, and as a member of the Aircraft Fire Fighting Committee of the National Fire Protection Association. The function of the latter group is to prepare a manual on airplane crash fire fighting and rescue.

The extension courses offered by this department throughout the State continued though with slightly smaller enrollments. During the period of this report about 1200 volunteer firemen were trained in both elementary and advanced classes. In addition the department offered a course in teacher training which was completed by 115 firemen, who now are available to serve as instructors for this department.

Mining Extension Classes

These classes, held in cooperation between the College of Engineering, the State Bureau of Mines, the State Department of Education, and the County Boards of Education of Alleghany and Garrett Counties, continued in the western part of the State. Due to war conditions the numbers in attendance were less than in previous years. During the period of this report 175 persons completed these courses.

Faculty Cooperation

The activities and accomplishments in the College of Engineering, as here recorded, could not have materialized without the loyal and conscientious performance of the faculty. Our College of Engineering was one of the few in the country which has functioned during the war period with practically its full faculty, despite flattering offers from other institutions and the opportunities available in war industry.

Members of the staff have accepted in fine spirit increased loads resulting from the accelerated teaching program and at the same time continued to render special war services to agencies requesting their help. We wish to express our sincere appreciation for the cooperation and loyalty of the engineering faculty during these trying times.

It is with deep regret that we record the death on April 20, 1944, of Profesor M. A. Pyle of the Department of Civil Engineering. He was an able and conscientious teacher who for more than a quarter of a century faithfully served the University.

Additional Laboratory Space

In closing, attention should be called to the greatest immediate need of the College of Engineering in all its departments, namely, for

a laboratory addition to the present Engineering Building. This facility is necessary to house properly the larger laboratory equipment of the Departments of Civil, Electrical, and Mechanical Engineering now temporarily and inadequately located in the Arts and Sciences Building.

Such an addition, designed to fit our needs, would enable us to unify our laboratories with our classroom instruction. It would also permit adequate installation of the considerable laboratory equipment purchased with University and with Federal funds.

At the close of the war, we anticipate that much equipment will be donated to the College of Engineering for instruction purpose. Additional space will be needed to incorporate these donations into our laboratories.

The Graduate School

C. O. APPLEMAN, *Dean*

THE last year of the biennium marks the twenty-fifth anniversary of the Graduate School of the University of Maryland. The enrollment in the Graduate School during the first year, 1919, was 13 students. The enrollment increased steadily until it reached its peak for the year 1940-1941, when the total enrollment was 819. This total includes the enrollment in the summer session, in the Baltimore schools, and part time students in both day and night classes.

Because of the war the enrollment for 1941-1942 dropped to 672, or about the average for the biennium 1938-1940. A further decrease occurred during both years of the present biennium. The enrollment for both years of the biennium is shown in the following table:

	1942-1943	1943-1944
Regular academic year	341	298
Short summer session	125	57
Grand total	466	355
Less duplicates	20	20
	446	335

The enrollment in the Graduate School of the University of Maryland during the war period has not decreased to the extent that is true of many graduate schools, as our location permits a considerable enrollment of part time students who are employed in nearby schools, government agencies, and industries. These students account for a large percentage of the present total enrollment.

During the year 1942-1943 the University conferred 94 advanced degrees, including 29 degrees of Doctor of Philosophy, which is about the average number of doctor's degrees for the preceding five years. The total number of degrees conferred for the year 1943-1944 dropped to 60, and this total includes only 6 doctor's degrees. The degrees conferred for both years of the biennium is shown in the following table:

	1942-1943	1943-1944
Doctor of Philosophy	29	6
Master of Arts	24	22
Master of Science	16	12
Master of Education	25	20
Total	94	60

The number of graduate assistants and fellows and their classification according to source of support and chief function is given in the following table:

	1942-1943	1943-1944
Teaching Fellows	13	1
University Research Fellows	9	9
Industrial Fellows	1	1
Research Fellows on outside grants for special wartime research	3	12
Fish and Wild Life Fellows	3	----
Cancer Research Fellows	1	----
Teaching Graduate Assistants	29	10
Research Graduate Assistants (Experiment Station)	3	6
Total	62	37

The maximum stipend for the University Fellows in this list was $500 for nine months. The stipend for industrial and special research Fellows varied. The maximum stipend for the graduate assistants was $1000 per annum. The list does not include a few assistants who registered for graduate work but whose stipends were greater that $1000 per annum, the maximum stipend for regular graduate assistants. The number of fellows and regular graduate assistants was much smaller than for the previous biennium, when the average number for the biennium was 95. While the graduate assistants and fellows are getting their training they are rendering at low cost efficient service in the teaching and research program of the university.

The graduate schools are now looking forward to the post-war period, as they expect an unusual demand upon the facilities for graduate work. In the post-war period there will be needed more than

ever before sound intellectual leadership. Men and women with highly specialized training on the graduate level will be greatly needed in secondary schools, colleges and universities, governmental agencies, and many industries. Industry in the post-war period will support research on a much greater scale than in the past, and industrial fellows and research workers will be in demand.

One of the Chief functions of the graduate school is to train men and women for research and productive scholarship. The training of research workers in science has been greatly curtailed during the war. Unless a greater reserve of these workers is provided by the graduate schools in the immediate post-war period, scientific development in America will suffer a serious setback.

The College of Home Economics

MARIE MOUNT, *Dean*

WAR conditions have been the determining factor in making all plans for the College of Home Economics for the last two years. It was necessary to prepare students as quickly as possible to carry their share of responsibility in the war, with as little sacrifice of educational standards and educational experiences as possible—since the most capable and best trained persons must build our post war life.

In changing from the semester to the quarter plan at the University, courses were revised with certain changes in emphases—all home economics courses were made as practical as possible: students, who under normal conditions had the summer for practical experience, under the accelerated plan had to get most of their experience in the class room and the laboratory. In all of our work emphasis has been placed on doing the best with what was available in the way of equipment and supplies; and in conserving equipment and supplies through proper use in order to make them last.

A short summary of the accomplishments of the College of Home Economics follows under appropriate headings:

Textiles and Clothing

Emphasis has been put on these items: in textiles—on the selection, use, and care of new fibers and blends; on analysis and performance tests of familiar fabrics; and on the development of consumer education through the work of the testing laboratories, labeling and the literature from government and commercial sources. In clothing—the use of all garments in the family wardrobe; more home sewing to

stretch the family budget; careful judgment in the selection of ready to wear clothing; and on the very important item of the care of all garments to prolong their life.

Practical Art

This is the newest of the departments in the College of Home Economics and has a large enrollment. Its courses present art in daily living—as particularly applicable to the house and its furnishings and to clothing. In addition to art, courses in merchandizing, display, advertising, radio and journalism prepare students for positions in the field of merchandising.

Home Management

Managing a home during a war presents more complications than in peace time: all household tasks must be done with simplicity and efficiency. All of the family must cooperate to make the home successful, since domestic labor is scarce and the members of the family have many duties outside the home to perform. In our classes and at the home management house short processes and methods of saving time, energy, and materials have been urged.

Due to the increased cost of living, our standards were modified to bring expenses within the income.

Institution Management

We have not been able to fill more than half of the positions in this line of work since the war began. Army and civilian hospitals and industrial plants have made a heavy demand on the inadequate supply of dietitians and persons trained as food directors of food service. From each class of graduates some have entered approved hospital training courses, after which they entered the army as dietitians with the rank of second lieutenant. We furnish the army authorities in this area with a list of our alumnae who were already eligible for service as army dietitians.

Home Economics Education

Students in this curriculum may register either in the College of Education or in the College of Home Economics. It has been difficult to get students interested in teaching at the present time; there are other lines of work that pay more and, temporarily at least, offer more advancement. There has been a demand for home economics trained persons to teach in the nursery schools.

Foods and Nutrition

Mrs. Claribel P. Welsh, Head of this work, resigned in September 1943, and it seemed wise not make a permanent appointment until

1945. This department has emphasized nutrition education and how to make it function through establishing good eating habits among students. Nutrition exhibits accompanied by information and literature were arranged for the general student body. In the foods courses war needs have ben met through the teaching of food conservation: the growing of food, its preservation and the elimination of waste through proper purchasing, storage, preparation, and service.

Although educating young women in homemaking is the first duty of the College of Home Economics, other important services were rendered the people of Maryland. One member of the Foods and Nutrition staff, in addition to her campus teaching schedule, did the following: taught a class in nutrition to the negro home economics teachers of Baltimore in which the students produced a collection of 200 war time recipes; made a survey to determine the adequacy of the food service for an institution through the Baltimore Council of Social Agencies and for the Devine Savior Seminary of Latham, Maryland. Following the latter she gave lectures on nutrition to the Theologians in the Seminary. She gave talks on food rationing and nutrition to groups of parents and teachers of Prince Georges County, to adult groups on the campus and to mother's organizations of the nursery school system; she has served as Chairman of the School Lunch Committee for the Maryland Congress of Parents and Teachers.

Mrs. Welsh taught nutrition to the senior students in the School of Dentistry and gave many talks on food and nutrition to women's clubs, men and women's service clubs and to students not registered in the College of Home Economics. A series of food demonstrations was given to canteen workers and to social welfare groups by the third instructor in this department.

Food, its conservation and consumption, plays a vital part in normal living, but during war it becomes even more important. It is natural that a greater part of this report is concerned with our Department of Foods and Nutrition.

All of our Home Economics staff members have given out general information on the activities of a home through talks, conferences, the radio, over the telephone, and through mimeographed and printed material

The Committee on Nutrition for Maryland

This has been a sub-committee of the Maryland Council of Defense. Its personnel is composed of representatives of the agencies of education, health and welfare in Maryland. The Dean of the College of Home Economics has served as Chairman of the Committee. An Executive Secretary for the Committee, paid by the Federal Government, was appointed in April 1944. It is the duty of this Secretary to help in the coordination of nutrition programs in the counties and in Baltimore.

A new Committee on Nutrition for Baltimore was organized in the spring of 1943 with Mrs. Duane Peterson as Chairman. This group is a sub-committee under the direction of Committee on Consumer Interests of the Baltimore Civilian Mobilization Committee.

The College of Business and Public Administration

J. F. PYLE, *Dean*

THE name of the college was changed from the College of Commerce to the College of Business and Public Administration in the autumn of 1942. This change was made in order to more accurately designate the scope and content of the curriculums offered in the college. Changing conditions, greater public interest in business administration rather than in the more narrow scope of collegiate education for business suggested by the name College of Commerce, and the rapidly increasing importance of public administration, dictated the change in name. It is the policy of the college to so adjust its curriculums, methods, and staff as to keep its work in line with current needs in the fields of education with which it is concerned.

The University changed from the semester plan to the quarter basis in July of 1943. This change was made to correlate the regular work of the University more effectively with the Army Specialized Training Program which was undertaken by the University at that time.

Some of the more important changes planned in 1942 could not be put into effect during the biennium due to the rapidly increasing tempo of the war. The Government's change in practice with reference to the deferment of business students, the passage of the law drafting eighteen year old boys, and the great demand for the services of young men and women in government and industry, brought about a drastic reduction in civilian enrollment. A large percentage of faculty members voluntered or were drafted for the armed services and several others resigned to take higher paying government jobs. We found it very difficult to replace these men with properly qualified instructors. This situation, however, had its compensations. We were able to reduce our staff and thereby our operating costs in line with the reduced registration of civilian students without having to dismiss faculty members. We are now down to the minimum number of faculty members we can operate with and at the same time maintain a fairly well balanced program. We have had to withdraw a number of elective courses and to forego much research and investigational work for the duration owing to the greatly reduced staff.

During the school year 1942-43, a new department—Natural and Human Resources—was added. The staff of this department—now consisting of two professors, an instructor and three research assistants—is engaged in a large research project that will, we believe, produce results of great value to the University, the State and to a large area of the nation. This project is being carried on in cooperation with the United States Bureau of Agricultural Economics which is bearing a substantial part of the cost. This research project is concerned with the preparation of an Economic Atlas of the World. It is planned to channel the research work of the staff of this department into a joint and permanent publication that will be highly useful, not only in classroom instruction in other universities as well as at Maryland, but also to workers in government departments and private companies and to individuals seeking information about the resources and the peoples of foreign lands and of the United States.

The college did its part in furnishing teaching personnel, equipment and facilities for the Army Specialized Training Program. Each member of the faculty taught one or more army classes in addition to his regular work in the college. The staff assumed the responsibility of providing instruction in geography, a required army training course, and for some of the material effered to the foreign language areas groups. During the summer quarter of 1943, the college provided instruction for 870 soldiers, for the fall quarter 720 soldiers; for the winter quarter, 1944, 660 soldiers, and for the spring quarter, 58 soldiers. The Army changed its policy with reference to this program, as a result the number of soldiers sent to the University was greatly reduced at the beginning of the spring quarter.

The great majority of the members of the staff of the college have shown a fine spirit of cooperation throughout the period. One of the faculty members has devoted a major portion of his time to the Dean of Men's office, another was transferred to the Business Office of the University. One professor has devoted several hours a week in the Administrative Control Division of the Army Air Corps, located in the Pentagon building. The Dean of the College has served, since December 1943, as Acting Dean of the College of Arts and Sciences in addition to his duties in the College of Business and Public Administration. He has also served as a consultant on the Maryland Commission on Post-War Reconstruction and Development. He was appointed to this position by Governor O'Conor. The wholehearted and unselfish spirit of cooperation on the part of the faculty of the college deserves high commendation.

Post-War Plans

The Post-war period is fast approaching and the college is preparing for the new problems that will arise, and confidently expects to be able to take a leading role in developing curriculums, methods, and a staff

competent to meet the needs of a "New Era" in business and public administration education, research and teaching.

The College of Business and Public Administration is organized and prepared to offer a number of courses and programs of study that will aid the returning veteran to prepare himself or herself for a useful and remunerative position in the field of business or in government work. The courses may be so selected and grouped as to furnish the type of training best suited to the individual student's interest, experience, ambition and special aim in life, The student may plan, for example, to work for a Bachelor's Master's or Ph.D. degree, or he may work toward the combined Business and Law degree, or he may, if his time for university training is limited, plan his studies on a one or two year basis. The results secured will depend on the amount of interest and enthusiasm shown on the part of the individual student plus his native abilities, aptitudes and experience.

When the fighting ceases in the European section the size of the armed forces will likely be considerably reduced and the pressure on industrial production for war purposes will be removed. The results may be that (1) high school graduates, the present group, will enter colleges and universities. (2) Many demobilized service personnel will enter or return to colleges. (3) The younger civilian office and industrial workers will go to school again.

It is probable that within three to six months after hostilities have ceased in Europe, the flow of students to the colleges and universities will begin in considerable force.

There is a strong feeling in many places that the fighting in Europe will be over before the end of 1944. If this happens, we should be in a position to meet the demand for educational services that will appear.

The immediate needs of the College of Business and Public Administration may be grouped under three major headings—(1) Departmental Organization; (2) Physical Facilities; (3) Personnel. The specific needs in these areas will be presented in a future report with recommendations.

The School of Medicine and University Hospital

ROB'T. U. PATTERSON, *Dean*

THE operations of the Medical School and the University Hospital, its principal clinical teaching institution, have continued to be influenced during the last two years by the general and local conditions that have developed in our country during the war.

The total number of students for the period October 1, 1942 to June 30, 1943 was 371, representing 28 States, the Republic of Panama and the Territory of Puerto Rico. The change from the old to the new fiscal year took effect July 1, 1943. For the year beginning on that date and ending June 30, 1944, there were 379 students representing the same States and countries already mentioned.

The scholastic curriculum which was inaugurated upon an accelerated basis on June 25, 1942 has been continued. The hospital and school have been required to keep the Procurement and Assignment Service at its Headquarters in Washington informed from time to time of the "essential", or "non-essential" teaching status of every member of the Faculty of the Medical School, and also of the members of the Visiting Staff of the University Hospital. 137 members of the Faculty are now absent on active duty with the military and naval services.

On account of the very limited appropriations provided by the State for the support of the Medical School, the School is obliged to supplement its appropriations each year by every legitimate means. The result is that in the Medical School, the tuition fees for students who are not in the millitary or naval services (i.e. women, and physically disqualified male students) are on a level with the most expensive private institutions. In peace time that is true for all of our medical students. This results from time to time in the exclusion of very desirable students because they are unable to meet the high tuition fees. Future support by the Legislature should be in more reasonable proportions than at present so that more well qualified non-military students may be able to afford to seek admission now and after the war; also in order that the salaries of full time teachers may be raised to a level which will enable the medical school to compete with reasonable assurance of success with other schools in the educational world, whenever it becomes necessary to fill vacancies that occur in the Faculty.

The University Hospital is most dependent upon fees received for the care of private and semi-private patients, because the Legislature does not provide adequate appropriations for the support of this institution so that they can care for under-privileged citizens from all parts of the State. As a State hospital, that is its most important function next to providing clinical material for the instruction of medical and nursing students.

In this connection it may be recalled that at the inspection of this School made by a Committee from the Council on Medical Education and Hospitals of the American Medical Association in 1935, even at that time they called particular attention to the failure of the Legislature to make adequate financial provision for the Medical School,

and its hospital. That committee also recommended that the size of the student body be reduced somewhat from what it was at that time. A reduction of about 35 has been made since that time but it has never been possible to lower the number to the optimum figure because the School is obliged to depend upon the income derived from students tuition fees in order to make it possible to continue to function.

The Faculty of the Medical School consists of 52 Professors and 332 Associates, Assistant Professors, and other grades, a total of 384, of which as already stated 137 (35.6%) are now absent with the Armed Forces.

New appointments to the Faculty of the Medical School during the period covered are as follows:

Dr. Charles W. Maxson, Associate Professor of Surgery
Dr. Hugh W. Josephs, Associate Professor of Pediatrics
Dr. F. Gaynor Evans, Assistant Professor of Gross Anatomy
Dr. Rubert S. Anderson, Assistant Professor of Physiology
Dr. William W. Elgin, Associate in Psychology
Dr. N. M. Kanoff, Associate in Dermatology
Dr. Hans W. Loewald, Instructor in Psychiatry
Dr. Marie A. Andersch, Instructor in Medicine
Dr. Lucile J. Caldwell, Instructor in Dermatology
Dr. J. G. N. Cushing, Instructor in Psychiatry
Dr. Francis McLaughlin, Instructor in Psychiatry
Dr. Samuel Novey, Instructor in Psychiatry

The School has suffered the following losses which occurred as a result of death:

Dr. S. Griffith Davis, Professor of Anaesthesia
Dr. J. W. Downey, Professor of Otology
Dr. A. J. Gillis, Clinical Professor of Genito-Urinary Surgery
Dr. Abram S. Samuels, Clinical Professor of Gynecology
Dr. George M. Settle,, Associate Professor of Neurology and Clinical Medicine
Dr. E. B. Freeman, Lecturer in Medicine
Dr. F. Stratner Orem, Associate in Pediatrics.
Dr. Thomas J. Coonan, Associate in Pediatrics.
Dr. John R. Abercrombie, Associate in Dermatology

The following donations have been received for the purposes indicated:

Department of Pharmacology—
U. S. Pharmacopeia—$3,500.00
Ohio Chemical & Manufacturing Co.—$4,000.00, held two years
Charles E. McManus Fund—$7,500.00
Mercury Fund—$2,500.00.
International Cancer Research Foundation—$3,500.00

Department of Anatomy—
Anna Fuller Fund——$2,000.00 year, held two years
International Cancer Research Foundation—$3,500.00 year, held two years

Department of Physiology—
American Philosophical Society Fund—$1,500.00

The School of Nursing

MRS. IVY. B. CLIFFORD, R.N., M.A., *Director*

THE School of Nursing, since the last biennial report, in common with other schools of nursing in this country has been faced with three major problems;

1. The needs of the Army and the Navy for nursing service have priority over all other nursing needs, and in meeting the urgent call the University of Maryland School of Nursing graduates have, in a large measure, enlisted in the United States Army and Navy Nurse Corps immediately following completion of their course in the school. Formerly many of these graduates remained in the hospital as graduate staff nurses, thus affording a stabilizing structure as well as a more experienced body to offset the clinical experience of the student nurse who is required to practice in the several departments of the hospital, and is therefore transient as well as inexperienced.

2. Schools of nursing throughout the United States, whether participating in the Nurse Cadet Corps or not, have been urged to increase enrollment in order to prepare nurses for the war emergency. In this the School of Nursing has not failed. In 1942 there were approximately 135 student nurses enrolled in the school. On July 1, 1944 there were 245 student nurses enrolled in the school.

3. In this School of Nursing, as elsewhere throughout the country, nursing school faculties have been depleted because of the war, and it is almost impossible to replace faculty members who have enlisted.

The three problems enumerated profoundly effect a school of nursing. With an increase in the student enrollment, a decrease in the graduate staff, as well as in the supervisory and teaching faculty, there is a tremendous load placed upon the remaining faculty in order that the educational program may be sustained. During the past year, in spite of these problems, the School of Nursing has organized and is conducting a plan of study for the student nurse based on sound academic and professional principles, and in accordance with the content suggested in the Curriculum Guide for Schools of Nursing.

It is the aim of the School of Nursing to meet the standards set for the professional school of nursing by the National League of Nursing Education in order that it may be judged as being a school offering a program of professional education of acceptable quality. To attain this aim the following recommendations are essential:

1. An adequate, well prepared faculty for the teaching of the student nurse in nursing classes and in clinical practice.

2. Adequate housing facilities.

3. Because of the location of the hospital and the Nurses' Home provision should be made for the social and recreational activities of the student nurse.

The School of Law

ROGER HOWELL, *Dean*

THE Law School, in common with all law schools in the country, has been severely affected by the abnormal conditions resulting from the war, and its chief problem during the past biennium has been to maintain a proper standard of legal education under the difficulties so caused. Total law school enrollment in the country decreased 83% between September, 1938, and September, 1943, and 39% between September, 1942, and September, 1943. Our enrollment decreased 68½% between September, 1938, and September, 1943, and 24% between September, 1942, and September, 1943. Our loss in enrollment accordingly, while severe, has been less than that experienced by law schools generally, a fact attributable in part to our having an evening division and to our isolation in a large city. As of September 1943, we were in fact the largest State University law school in the country and stood 14th in total enrollment among the 109 schools approved by the American Bar Association. We suffered also some faculty losses, three to the armed forces and one to government work.

We have been able to continue giving a fairly satisfactory curriculum by alternating some courses from year to year, dropping some of lesser importance entirely, and by assigning to all members of the full-time faculty a considerably increased teaching load over that normally carried. As a permanent proposition, the curriculum at present is much too curtailed to be desirable or satisfactory, but it has afforded the minimum essentials of a sound legal education without loss of scholastic standards.

Since the school in normal times was two-thirds dependent on student fees for its support, it is obvious that continued operation under the conditions mentioned involved a substantial deficit. This has been less, however, than anticipated.

Beginning in the summer of 1942, the school went on an optional accelerated basis, with a summer semester added to the two normal semesters of the school year. This was done originally in order to enable students subject to military call to progress as far as possible in their studies before entering service, and was of considerable help to many students. At present, however, it serves little, if any, such

purpose, and besides being a heavy additional burden on the faculty, is, in the opinion of most faculty members here and in other schools, very undesirable from the purely educational standpoint. Unless possibly to take care of returning veterans, it is believed that the accelerated plan should be ended as soon as possible and a return made to the normal school year as the basis for instruction.

The future problems to be chiefly considered by the School, deal with the post-war education of returning veterans, both those whose studies were interrupted and those wishing to enter the study of law. The problems are varied, and are being given a great deal of attention by both State and national organizations interested in legal education. The School may well be called upon also to help in conducting refresher courses for returning veterans who were already members of the bar when they entered service.

Some reorganization of the curriculum, as well as an expansion of the present curtailed one, will also almost certainly be necessary, if we are to keep pace in the post-war period with current trends in law. It would be premature, however, as well as inadvisable practically, to engage in experimentation along such lines under present conditions.

School of Dentistry

J. BEN ROBINSON, *Dean*

BECAUSE of the essential value of dental service to the war effort adequate provision was made by the proper government agencies to continue the education of dental students during the past two years. A satisfactory enrollment of dental students was endured in part by a policy of deferment under Selective Service Administration and in part by the assignment of service men who were qualified and desired to study dentistry under the Army Specialized Training Program and the Navy College Training Program. These arrangements made it possible for the Dental School, University of Maryland, to maintain its enrollment on a reasonably high level of numbers and of scholarship.

During the past two years the Dental School has been in continous operation. The teaching schedule was accelerated in 1942 in order to produce as quickly as possible an adequate number of officers required to supply the demands of the Dental Corps of the Army and Navy. Under this acceleration two classes were graduated in 1943 and one in 1944—an increase in numbers of fifty per cent over normal production.

While the program of acceleration has been helpful to the war effort it has, at the same time, interfered with the scholastic progress

of the student thus causing him to fall below that high standard of scholarship fixed for the student under normal conditions. A number of factors contributed to this unfavorable result. Among these were: (a) The financing of the serviceman's educational program provided him with all the essentials necessary to carry on and in addition provided him with a generous supply of spending money. This financial security, which most students normally do not have, caused him to lessen his effort while his ready cash made it possible for him to indulge in social pleasure provided so generously for service men by a sympathetic public which most students in the service took prompt advantage of. This artificial situation served as an effective deterrent to the usual interest and progress of the student. (b) The continuous confinement of the student to classroom, laboratory and clinic during all seasons of the year, and the greater teaching burden imposed on teachers who were obliged to continue their class-room work without relief produced fatigue in both student and teacher which reflected materially upon the quality of work done by both. This experience demonstrated the desirability of the two semester program in the Dental School curriculum to which the Faculty has voted to return as soon as the war pressure is removed.

The program of acceleration has had a favorable effect on the financial situation in the Dental School. The continuous teaching program increased both the income from student fees and the income from dental clinics approximately fifty per cent for each calendar year. In some cases where instructors were called to the services their positions could not be filled; in the circumstances other teachers in the department attempted as best they could to carry on without additional compensation, thus producing a saving of the salary of the absent teacher. Additional expenditures were involved in extra supplies and the slight increases in salaries of part time teacher who normally were under contract for only the academic year. The net result of this situation was the accumulation of a very large surplus. Emphasis is placed on the financial situation in order to make it clear to all concerned that the Dental School will not be a surplus producing department when peace is restored.

Despite the stress of routine duties in the class room the teachers in the Dental School have done creditable research in many departments. Splendid research has been conducted in bacteriology, pathology, orthodontia, dental history, and dental materials—particularly the plastics used in restorative dentistry. A research committee is now working out a plan to correlate the research activities in the various departments looking toward a more productive research program for the post-war period.

Some post graduate courses have been offered during the past two years. The scope of the post-graduate program is necessarily limited

by the small number of men remaining in private practice who could spare the time away from their offices to undertake advanced study, and by the limited time that over-busy teachers could devote to special instruction. But there has been enough experience with these courses to show a growing trend toward a larger demand for such instruction which the dental school will be called upon to provide in the near future. It appears obvious that the Dental School must soon provide a number of courses of instruction on the post-graduate level.

The experiences of the world war period and the years immediately preceding it have convinced the faculty that readjustments are necessary in order to include in the curriculum proper emphasis on the newer knowledge and the improved skills that have been contributed by a growing dental science and art. It appears that too much emphasis has been placed in the curriculum on the performance skills and that basic science teaching has not been correlated with clinic teaching as it should. In order to adjust these admitted weaknesses an over-all curriculum study is being made looking toward suitable rearrangements.

During the past two years the Dental School has been thoroughly surveyed and inspected by the national dental accrediting agency—the Council on Education of the American Dental Association. The report shows a favorable appraisal of most of the school's activities. However, there are certain glaring defects that must be corrected. Among these is that of teaching strength. Compared with other state university dental schools, the Dental School, University of Maryland, shows a very low ratio of teacher to students—the second lowest ratio among all state university dental schools. The records clearly reveal that the teaching strength in many departments is below minimum strength—namely, Histology, Pathology, Bacteriology, Biochemistry, Pharmacology, Orthodontics and Oral Diagnosis. An increase in teaching strength in these departments is imperative in the interest of more effective teaching. Increased appropriations must be made to provide at least the minimum needs in these various departments.

The School of Pharmacy

A. G. DuMEZ, *Dean*

Finances

FOR the past two years, the School of Pharmacy has been operating with a deficit. This amounted to $4,732.52 in the year 1942-43 and to $5,054.22 in 1943-44, making a total deficit for the two years of $9,786.74. It is anticipated that the deficit for the coming

year, that is, the fiscal year ending June 30, 1945, will amount to approximately $24,000.00. While it is believed that the enrollment of the School of Pharmacy has reached its minimum and that it will increase from now on, it is not expected that the increase will be sufficient to enable the School of Pharmacy to balance its budget over the next biennium. Even though the war in Europe should end this year, it is doubted if there will be any large increase in enrollment next year because the older ex-servicemen will be discharged first and few of these will enter or return to college. The draft will continue to take the 18 year old makes from which the major portion of our freshmen students come, so we will still have to depend largely on male students classified as 4F and girls for the major part of our student body.

It is, therefore, suggested that the Legislature be requested to increase the annual state appropriation for the School by at least $24,000.00 over the next biennium.

Enrollment

The enrollment of pharmacy students in the School of Pharmacy has fallen off from a total of 165 students (139 undergraduate students plus 26 graduate students) on July 1, 1942, to a total of 72 students (57 undergraduate students plus 15 graduate students) on July 1, 1944. Since July 1, 1944, the enrollment has decreased to 68 students (53 undergraduate students plus 15 graduate students). In addition, there has been enrolled for the Summer quarter a total of 15 pre-medical and pre-dental students who are completing certain arts and science courses offered by the School of Pharmacy.

This marked falling off in enrollment was due almost entirely to the operation of the Selective Service draft. For the first two years of the war, all pharmacy students were eligible for deferment, but on July 1, 1943, new draft regulations were issued by Selective Service, which restricted deferments to those pharmacy students who could graduate within twenty-four months after July 1, 1943. In February 1944, new regulations were again issued by Selective Service and deferments of pharmacy students were restricted to senior students who could graduate on or before July 1, 1944. The effect of these restrictions has been to limit enrollment in the School of Pharmacy to girl students, male students classified as 4F's and a few male students who are 17 years of age or under.

The following table shows the details of enrollment for the biennium covered in this report:

Classes	July 1, 1942	July 1, 1943	July 1, 1944*
Freshmen	34	10	5
Sophomores	32	12	7
Juniors	27	44	20
Seniors	27	26	20
Special Students	19	8	5
Graduate Students	26	18	15
Total Enrollment	165	118	72*

The effect of Selective Service regulations upon the enrollment of students in our colleges of pharmacy is of grave concern to pharmacy as a whole because it effects the source of supply of replacements for those in actual practice who will die or are compelled to retire because of old age, sickness or for other reasons. Various means are, therefore, being employed to induce greater numbers of students to take up pharmacy as a career. One of the means which has been found to be most successful is that of offering scholarships to worthy prospects. During the past two years, friends of the School of Pharmacy have established the following scholarships:

Vick Chemical Company—One four-year scholarship	$1,460.00
Read Drug and Chemical Co.—One one-year scholarship	500.00
One one-year scholarship	450.00
Henry P. Gilpin Co.—One one-year scholarship	300.00
One one-year scholarship	200.00
American Foundation for Pharmaceutical Education—	
One one-year scholarship	200.00
One one-year scholarship	200.00

Faculty

The war has had little effect upon the faculty personnel so far as the number is concerned, except in the case of Arts and Science teachers and graduate student assistants under 26 years of age. Most of the latter have been called by the draft and the vacancies created thereby in the last year or more have not been filled because of the decrease in student enrollment.

When the School of Dentistry discontinued its pre-dental courses in 1942, the entire expense of paying for instruction in the arts and science subjects given in Baltimore had to be assumed by the School of Pharmacy because these subjects were a required part of the pharmacy curriculum. However, the decrease in the number of students

*For the Summer quarter beginning July 5, 1944, an alditional total of 15 pre-medical and pre-dental students were enrolled to complete courses in the arts and sciences.

taking these courses made it possible to give this instruction with a smaller number of arts and science teachers and to make certain adjustments in salaries. Accordingly, the number of arts and science teachers was reduced from 10 to 5 and the cost of this instruction was reduced from $20,884.96 in 1942-43 to $9,564.96 for the year which ended June 30, 1944.

Whereas the war emergency has not affected the faculty personnel in so far as the adequacy of numbers is concerned, it has affected the efficiency of the members who have been compelled to carry an unusually heavy teaching load with no adequate vacation period as a result of the acceleration of the program of instruction which was begun two years ago. Under the accelerated program of instruction, the School has been operating on the quarter system and there have been no Summer vacations. All of the administrative officers of the School and faculty members have worked throughout this period without any adequate vacation periods and without any increases in salaries to compensate them for the additional load carried.

Most of the members of the faculty have not had salary increases in five or more years and it is expected that there will be a number of resignations as soon as the war is over if this condition is not corrected. There is a marked shortage of teachers in our colleges of pharmacy and an increasing demand for pharmaceutically trained men in the industries and several members of the faculty have already received attractive offers from outside sources. In view of the foregoing, it is suggested that provision be made in the budget for the next biennium to make increases in the salaries of faculty members.

Accelerated Program of Instruction

The School went on the quarter basis and began its accelerated program of instruction in July 1942. On this basis, the School has been operating continously throughout the year, giving four quarters of instruction of 12 weeks each with intervals of approximately one week each between quarters. Two entering classes have been admitted each year, which more than doubled the load ordinarily carried by our teachers and which load is far in excess of that permitted by the accrediting agencies. This additional burden has been assumed by the teachers willingly and it is believed that it can be justified as a war emergency.

There has been an expression of dissatisfaction with the accelerated program of instruction from practically all of the colleges of pharmacy in this country and there is a strong desire on the part of these institutions to return to the normal program of instruction as soon as possible. It is quite probable that a definite date for returning to the normal program will be set by the American Association of Colleges of Pharmacy in the near future.

Curriculum

There have been no important changes made in the pharmacy curriculum in the past two years, except those which were made to strengthen the courses in graduate instruction. It is not anticipated that any important changes will be made until after the end of the war emergency. It may, however, be necessary to give some special review or refresher courses to returning ex-servicemen. Plans have already been made for offering some courses of this nature, but whether or not they will actually be given will depend upon the demands made by returning ex-servicemen for instruction of this kind.

Graduate Work

As stated under enrollment, the number of graduate students enrolled in the School of Pharmacy has decreased from 26 in 1942 to 15 on July 1, 1944, with a corresponding reduction in the amount of graduate work done during this period. Most of our graduate students are doing their major work in pharmceutical chemistry and pharmacology, although some are specializing in pharmacy and related subjects. The demand for students who have completed work for the Doctor's degree is far beyond the number that we can supply and it is expected that the demand will continue to increase for sometime. It, therefore, seems that the School should not only continue to provide instruction for graduate students, but should increase its facilities for doing work of this type.

Grants for carrying out graduate work over the biennium have been received as follows:

H. A. B. Dunning Research Fellowship	$1,000.00 annually
Richard Hudnut Sales Co. Research Fund	1,000.00
Wm. S. Merrell Co.	1,500.00
Alumni Association of School of Pharmacy	100.00 annually
Wm. R. Warner Research Fellowships	900.00 annually for 2 yrs.

War Activities

The School of Pharmacy has no contracts with government departments, but the members of its faculty have been active in various ways in furthering the war effort.

The Dean is a consultant to the War Manpower Commission for Pharmacy and is a member of the State Advisory Committee to Selective Service for Pharmacy. He is also serving as a member of the War Emergency Committee of the American Pharmaceutical Association and of a similar committee of the American Association of Colleges of Pharmacy.

Dr. Walter Hartung, Professor of Pharmaceutical Chemistry, is cooperating with Dr. Drake on certain research studies being performed for one of the agencies represented on the Committee on Scientific Research Personnel of the War Manpower Commission. He has also supervised the preparation of eight stilbazoles by one of our graduate students. These compounds are believed to have antimalarial properties and are now being tested to determine the accuracy of this belief.

Dr. Thomas C. Grubb, Professor of Bacteriology, is serving on a Committee of the Emergency Services of Civilian Defense, which has for its assignment the collection of blood for obtaining blood typing serum.

Dr. C. W. Chapman, Professor of Pharmacology, is acting as a consultant to the Food and Drug Administration and as a member of several committees which have to do with the standardization of drug products. As a member of the Revision Committee of the U. S. Pharmacopoeia, he has carried out a number of studies on methods of improving biological assays for products required by our armed forces.

Other members of our faculty have given of their time and effort to one or more of the civilian defense programs and have contributed their services to the furtherance of the war effort whenever and wherever they could do so.

The University Libraries

CARL W. HINTZ, *Librarian*

I HAVE the honor to present a report on the work of the University Libraries for the biennium ending June 30, 1944. Inasmuch as this biennium was shortened by three months, by virtue of the State's change in fiscal year, it should be noted that all figures for 1942/43 are for nine months only while those for the biennium cover a twenty-one month period instead of the customary twenty-four.

The period under review has not been without its difficulties. The importation of books and periodicals from abroad has been severly limited although the fairly steady receipt of materials from England testifies to the success with which the Atlantic life line has been maintained throughout the war. Publishing in the United States has been affected particularly with regard to the physical properties of books and their distribution through the normal channels of the trade. Personnel has become an almost universal problem for all types of enterprises and we have not been an exception. The ac-

celerated program, and the resultant increase in number of hours open annually, has taxed our facilities. Nevertheless, it is gratifying to report some progress along normal lines together with new developments to meet changing needs.

Administration

A most significant change in our administrative organization was effected October 1, 1942 when Miss Wiles, previously Librarian of the Dental-Pharmacy Libraries, was placed in charge of the Medical Library as well. This was a logical extension of the policy of centralizing library administration begun with the appointment of the writer in September 1937. As a result of this latest change the number of separate units reporting in Baltimore has been reduced from four in 1937, to three in 1941, and now to two; namely, Dental-Medical-Pharmacy Libraries and the Law Library. The advantages of having one person responsible for the conduct of library service, under my direction, for these three schools, are numerous. The staff members in the Dental-Medical-Pharmacy libraries are on a centralized pay roll made up by the transfer of funds from the individual schools. The organization charts in the appendix illustrate in a graphic manner the changes referred to above.

The Physical Plant

There is little to report in this connection at College Park save the one important fact that we have now reached the limits of expansion within this building. The stacks are already crowded to the point where they are more difficult and consequently more expensive to administer than in a normal situation. Within the next two years at the outside, other provision must be made for the housing of books. This building must either be enlarged or a new one constructed which will be more in keeping with the present standing and needs of the University.

In Baltimore the problem of housing for the Dental-Pharmacy book collection poses an ever increasing problem. The stacks have already reached the saturation point and conferences with Drs. DuMez and Robinson have failed to provide any satisfactory solution which will not involve a major building change, or shift in the location of these libraries.

The erection of wooden shelving in the basement of the Medical Library, to complete the stack installation begun in 1937, has temporarily relived the situation with regard to the housing of the Medical Library book collection.

The Book Collection

Acquisitions

The number of volumes acquired during the biennium totalled 16,329. Table I presents figures by libraries.

Table I. Volumes Added, 1942-44

	1942-43	1943-44	Total for biennium
College Park—General Library	4,998	6,433	11,431
Baltimore—Dental Library	842	756	1,598
Law Library	200	298	498
Medical Library	850	1,391	2,241
Pharmacy Library	269	292	561
Total—All libraries	7,159	9,170	16,329

We have continued to place considerable emphasis on the acquisition of serials and the completion of broken sets in our present holdings. Scientific and scholarly journals form the backbone of a university library's collections. For this reason they deserve all the attention and funds which we can possibly devote to them.

As a result of correspondence with the Carnegie Institution of Washington the Library at College Park was made a full depository for publications of the Institution beginning December 23, 1943. This means we shall automatically receive these publications as gifts.

Stock

On June 30, 1944 volumes available in the University Libraries, after adjustments caused by the withdrawal of worn out and superseded books, totalled 174,412. This represents an increase of 15,033 volumes over the last biennial statement. Table II shows holdings by libraries.

Table II. Volumes in Libraries, June 30, 1944

College Park—General Library	112,325
Baltimore—Dental Library	10,472
Law Library	18,578
Medical Library	23,580
Pharmacy Library	9,457
Total—All Libraries	174,412

Special Collections

The Maryland Collection is now housed in the room, formerly used as an office, to the west of the Delivery Hall on the second floor of the Library. This has been a great improvement as it is possible for

interested patrons to see the Collection as a whole. Unfortunately, the room is too small to include all the material which rightfully belongs there.

At present the Collection consists of 2522 cataloged items, 807 reprints of articles by faculty members, and over 500 miscellaneous programs, announcements and reports. Additions to the Collection are made whenever possible.

The Rare Book Collection is small but may be expected to grow steadily. The term "rare" is used to cover many types of books which we do not wish to place in the general collection because of their age, their associations, and in some cases, their actual monetary value. An example of the first class is Mexia's Silva de varia leccion, published in Madrid, in 1602; of the second class Sven Hedin's Jehol, City of Emperors, autographed by him in Peking in 1935; and of the third class, a set of the Ayot St. Lawrence edition of Geogre Bernard Shaw's Works.

The War Information Library was established in the spring of 1942 at the request of the U. S. Office of Education. Located in the Main Reading Room, it now consits of several thousand pamphlets, bulletins, and reports contributed in the main by the governments of the United Nations and by associations, foundations and industrial establishments.

Classification and Cataloging

College Park

The period under review has been marked by a normal and steady flow of material through this important phase of library activity. The Catalog Department has its procedures constantly under scrutiny looking toward modifications which will simplify processing without sacrificing standard practices. Work on the Department Manual of Procedures has made steady progress.

Summarized statistics of work performed by the Catalog Department are given in Table III.

Table III. Catalog Department Statistics (College Park)

Year	Number of volumes	Cards made for catalog	Cards Made for shelflist
1942-43	5,018	10,393	2,207
1943-44	6,897	13,021	2,638
Total	11,915	23,414	4,845
Reclassification and Recataloging			
1942-43	501	636	176
1943-44	1,676	2,071	482
Total	2,177	2,707	482
Grand Total	14,092	26,121	5,503

The Catalog Department also handles minor repairs to books, such as news book pockets, replacement of worn and obliterated labels, torn pages, etc. During 1943/44, the first year statistics were kept, 913 operations of this sort were performed by student assistants under the supervision of the Head Cataloger.

Baltimore

In our Baltimore Libraries the work of classification and cataloging has kept pace with current accessions. In the Dental Library work on the cataloging of journals, previously uncataloged, is making good progress. The complete reclassification and recataloging of the Medical Library, begun December 1, 1942, is moving forward at a gratifying pace. Table IV shows number of volumes processed by libraries and category.

Table IV. Classification and Cataloging (Baltimore)

	1942-43	1943-44	Total
Classification and Cataloging—			
Dental Library	1,679	1,587	3,266
Law Library	200	298	498
Medical Library	630	696	1,326
Pharmacy Library	287	276	563
Total	2,796	2,857	5,653
Reclassification and recataloging—			
Dental Library	32	19	51
Law Library	----	----	----
Medical Library	2,815	3,781	6,596
Pharmacy Library	60	145	205
Total	2,907	3,945	6,852
Grand Total	5,703	6,802	12,505

Cooperation between libraries

It is a well-know fact that libraries must cooperate in the service of scholarship. It is impossible for any one library to attain completeness, or to satisfy all the demands made upon it, in this age of mass production of materials. To this end we have cooperated by checking the CATALOG OF BOOKS REPRESENTED BY LIBRARY OF CONGRESS PRINTED CARDS, ISSUED TO JULY 31, 1942, as issued, for our holdings and have submitted copy for the same to the National Union Catalog. As of June 30, 1944, 76 volumes of the projected 160 volumes had been received and checked.

The UNION LIST OF SERIALS, another invaluable tool to scholars, lists serial holdings of libraries in the U. S. and Canada. We are not

represented in the first two editions of this work but we shall be included in the forthcoming Supplement. To this end our serial holdings, at College Park and Baltimore, have been checked and submitted for inclusion.

Use of The Libraries

Unfortunately no standard has yet been devised to measure objectively the true effectiveness of library; namely, the impact which books and reading have upon the development of the student's mind and scholarship. A half hour spent helping a student to find materials for a term paper; two minutes to answer a specific question over the telephone; several hours devoted to checking or compiling a bibliography—how shall these services be measured? Or perhaps the real question is—how can the effect of these services be measured?

There is, however, one quantitative measure of work performed; namely the number of books borrowed. Table V shows the number of recorded loans of all types.

Table V. Recorded Loans—All Types

	1942-43	1943-44	Total
College Park—General Library	62,157	74,023	136,180
Baltimore—Dental Library	18,114	19,527	37,641
Law Library—For reference use only—No loans made outside library			
Medical Library	3,410	4,122	7,532
Pharmacy Library	3,071	3,213	6,284
Total	86,752	100,885	187,637

The total of 187,637 loans shows a decline from the high point of 237,583 reached in 1941/42. This is only to be expected in view of the sharp decrease in enrollment. Although it is difficult to give exact comparisons because of the change in terms and fluctuations in enrollment, it is safe to say that per capita use of the Library at College Park has fully maintained itself if, indeed, it has not increased over preceding years.

In Baltimore per capita use of the Dental Library has increased from 19 loans per student in 1940/41 to over 48 loans in 1943/44. Use of the other Baltimore Libraries has remained at approximately the same level as in previous years.

Students in the Army Specialized Training Program were given free use of all facilities. Books for course work were placed at the Main Desk. Contrary to the expectations of some people, Army Specialized Training Program students made considerable use of library facilities.

The Staff

Changes in Personnel

The period under review has seen an unusally large turnover in certain positions in the lower brackets. As far as the professional staff is concerned, however, we have been fortunate in holding the turnover to a comparatively respectable figure,

At College Park Mr. Howard Rovelstad was granted military leave of absence effective July 7, 1943. Miss Elizabeth A. Gardner, Assistant Reference and Loan Librarian, assumed his duties on an acting basis. We were unable to secure a replacement until March 7, 1944 when Miss Anna M. Urban, a graduate of Cornell University and the Emory University Library School, took up her duties. Miss Adele Skinner resigned August 31, 1943 and was succeeded by Miss Ruth Seabolt, a graduate of Duke University and the Emory University Library School, on September 15, 1943. An additional position created October 1, 1942 was held by Mrs. Milton Petty from January 6 until August 15, 1943. Mrs. Petty was succeeded by Miss Virginia Phillips, a graduate of Western Maryland College, on August 30, 1943.

Six appointments have been made during the biennium to the position of junior stenographer. With such a turnover it is scarcely possible for the incumbent to learn the names of staff members, let alone the duties of the position, before leaving again.

In Baltimore Miss Edith R. McIntosh and Mrs. Florence Kirk were appointed December 1, 1942 to fill positions created effective October 1, 1942. Miss McIntosh received her A.B. and A.B.L.S. degrees from the University of North Carolina. Mrs. Kirk had had many years of experience with the Maryland Public Library Advisory Commission.

Miss Gladys Mambert, a graduate of the New Jersy College for Women and of the University of Michigan Library School, joined the staff June 1, 1943 as a replacement for Mrs. Kathleen Hamilton who resigned some eight months earlier. Miss Mambert resigned May 1, 1944 after eleven months of service. The lapse of time in securing replacements is regrettable but characteristic of the period through which we are passing. It might be pointed out that demand for qualified librarians is greater than the supply. This is a condition which is likely to continue for several years due to the sharp decrease in enrollment in library schools.

Three appointments have been made during the biennium to a typist position.

Salary Standards Schedule

The adoption of the Salary Standards Schedule has not been entirely satisfactory although it has had the general effect of raising salaries.

The purpose of the Schedule is praiseworthy. However, the Library Science section does not provide sufficient latitude or range of positions to make it suitable for a complex organism like a university library system. It is ridiculous, for instance, to expect the same schedule to cover positions in the State Teachers Colleges and the State University. Certain changes must be made before it can ever be entirely satisfactory for our purposes.

Professional Activities

The staff continues to be active along professional lines through membership in national, state, and local professional organizations, through attendance at meetings, and through service on boards and committees. A brief survey of the most important activities follows:

Mrs. Getchell served as the Maryland representative on the Advisory Council of the Maryland, Virginia, and District of Columbia Regional Group of Cataloguers and Classifiers.

Miss Wiles was elected treasurer of the Maryland Library Association for 1943/44. She served as Chairman of its Membership Committee 1942/43.

Mrs. Clark served as President of the Baltimore Chapter, Special Libraries Association, 1942/43.

Miss Marriott was Vice Chairman of the University and College Group, Special Libraries Association, 1942/43 and prepared two bibliographies for publication in its Bulletin.

I completed a two year term as President of the Maryland Library Association in October 1943. I have served as a member of the State Wide Library Survey Committe, Maryland State Planning Commission since November 1941 and was elected Secretary of the University Libraries Group, Association of College and Research Libraries, in 1943.

Miss Wilson's article "Professional librarianship among medical librarians" appeared in the Medical Library Association Bulletin, December 1942.

Representation at Meetings and Conferences

The University Libraries have been represented at the following meetings by one or more members of the staff:

Institute on War Issues for Librarians, Washington, September 26-27, 1942.

Maryland Library Association, Baltimore, November 6, 1942.

District of Columbia Library Association—Inter American Bibliographical and Library Association, Washington, February 20, 1943.

Institute on War and Post War Issues, Philadelphia, April 7, 1943.
Institute on War and Post War Issues, Baltimore, May 12, 1943.
Medical Library Association, Regional Meeting, Philadelphia, June 1943.
Maryland Library Association, Baltimore, October 23, 1943.
Eastern College Librarian's Conference, Columbia University, January 1944.
Maryland Library Association, Baltimore, May 20, 1944.
Various meetings of the Baltimore Chapter, Special Libraries Association.
Various meetings of the District of Columbia Library Association.

Department of Military Science and Tactics

COLONEL H. C. GRISWOLD, Col. Inf., *P. M. S. & T.*

DUE to war time conditions the biennium recently ended was marked by many developments and changes. The induction of young men into the armed forces of the nation progressively reduced the Reserve Officers' Training Corps enrollment from over seventeen hundred at the start of this period tobelow three hundred at the close. A Signal Corps Unit open to students of Mechanical and Electrical Engineering was established early in the period but was later discontinued. At this time Advanced Courses were also discontinued but all students presently entered therein were ordered to Officer Candidate Schools and those who successfully completed the courses were commissioned. The percentage of Maryland students who successfully completed the various difficult Officer Candidate School courses was one of the highest on record, evincing the thoroughness and soundness of the military training given by this institution. At the same time the Infantry Unit was re-designated as "Branch Immaterial", the course intensified and changed so that it provided basic training common to the several branches of the combat services.

In the six quarters required for the completion of this course the academic work covered had required six semesters under the old system.

In addition to the regularly scheduled work of the first quarter, students at this institution are given thorough instruction in rifle markmanship, including the firing of a prescribed Army course on the gallery range. This additional work necessitates that students give eight to ten hours of their free time to this marksmanship course and as a result of their strong interest and appreciation a remarkably high percentage of qualification has been attained. It is believed that this work is very much worth while as our higher commanders on all battle fronts have been stressing the need for more thorough marksmanship training.

Early in 1943 the War Department inaugurated the Army Specialized Training Program, designed to supply our Armed Forces with men trained in special and technical skills. The University of Maryland was one of the first institutions selected to conduct this training and in June of that year a contingent of five hundred trainees was received. Instruction in the curricula of Basic Engineering, Advanced Engineering, Pre-Medical and Dental, and Foreign Area and Language commenced in July.

The housing, feeding, medical attention, physical training, and academic instruction were responsibilities of various other departments of the University, the Military Department handling the control, administration and military training. Trainees were increased to over eleven hundred for the quarter commencing in October 1943. From that high point the number of trainees declined in accordance with the War Department's curtailment of the Army Specialized Training Program to approximately two hundred at the close of the biennium. During this period the administrative and instructional staff of the Military Department reached a high of fifteen officers (including a dental officer) and thirteen enlisted men, declining to five officers and twelve enlisted men at the end of the period.

Late in 1943 a fine new Armory was completed and turned over to the Military Department. This building with its magnificent drill hall, offices, class rooms, store rooms, physical training rooms, projection room and one of the finest indoor ranges in the country, provides complete facilities for administration and all indoor phases of military instruction. It was declared by a War Department inspector to surpass similar facilities possessed by any university east of the Mississippi River.

On annual War Department inspections, the unit has continued to earn the highest rating, that of "Excellent".

The Varsity Rifle Team coached and directed by this Department has continued to rank among the top flight college teams of the nation. Both years thay have won the Third Service Command Intercollegiate Match, the Reserve Officers' Training Corps Hearst Trophy Match in the Third Service Command, and one year won the National Intercollegiate Match, the other year placing third. Two members of the team were selected as All America riflemen by the National Rifle Association.

It is my sincere belief that a noteworthy contribution has been made to the nation's war effort by the University of Maryland. The President and Faculty over a period of years have given strong support to the Reserve Officers' Training Corps program, in spite of determined efforts by influential groups to break down and abolish military

training in colleges. As a result of this far seeing policy, the Alumni of this institution constituted a substantial body of men with basic military training, among whom were a considerable number of Reserve Officers qualified for positions of leadership and immediately available at the beginning of a national emergency. This, with their wholehearted and intensified cooperation in the training of both civilian and service students for more effective participation in the war effort, is a prime factor in enabling a nation to meet and survive a great cirsis.

The Admissions Office

THE work of the Admissions Office during this period has reflected the University policy of training young men about to be called for service and at the same time kept to the fore the formulation of an admission policy which will make possible the selection of students on their promise of success in college rather than on the completion of a fixed pattern of subjects.

The respective roles of high schools and colleges in the emergency has been confused, but for the most part their respective responsibilty in training youth has remained what it has always been. After considering the admission of three year high school boys, the policy, widely followed in the country, of accepting those with good records and approximately fourteen units of high school credit was adopted. More recently all Maryland and District high school graduates are being admitted, those who qualify, as regular students, the others as special, non-degree students.

Even more important that the emergency service given young men is the revision of admission requirements accomplished since 1942. Fillowing the publication of the Eight Year Study, Dr. Bamford's committees brought in a report which was adopted by the Administrative Board. This action opens the way for the use of an intelligent policy of admission.

Scholarship business has been carried on promptly. If I may judge by the voluntary comment of the legislators, they believe it has been done efficiently.

Relations with the Veterans Administration continue to be most satisfactory. Mr. Keating has added to numerous letters a statement expressing his appreciation of the fine cooperation he has had from the University.

Service men and educational officers of the Armed Forces have been supplied information concerning the University and its program for veterans. Assistance in planning programs has been given the

former. Follow-up letters from them indicate that we are succeeding in furthering their interest in the University.

Students admitted by examination and readmission of failed students. Records of students of both classes show that only 5% of them earn degrees. In the light of this evidence, with the return of peacetime, high school graduates with poor records should be denied admission until they have earned good marks during an added year in high school. Failed students, except freshman, who should be allowed to remain perhaps a year, should be required to remain out for one quarter or semester as the case may be. A large percentage of those readmitted apparently want to save face rather than make a new start.

The outstanding accomplishment in Baltimore has been a better distribution of Dental Students. In place of the heavy percentage of New York and New Jersey residents, the classes entering in 1943 and 1944 have been made up of residents of an increased number of states in addition to Marylanders. Dr. Horner, executive Secretary of the American Dental Association was most complimentary in commenting on the work of the Admissions Office. In addition to saying that the selection of students has improved in every way, he asserted that my office is the only admissions office in the United States which takes more than a perfunctory interest in recruiting dental students.

To carry on the admissions work with efficiency and dispatch the needs of the future should be considered now. Indispensable needs will arise through an increased enrollment which will include many veterans. To meet these needs there should be provided:

1. More space for the Admissions Office.
2. A continous complete study of admission practices to formulate a table of experience for guidance in the selection of students.
3. Provision for follow-up of readmitted students, without which attention readmission for most of them is lost motion.
4. Make possible closer contacts with high schools through increased visits. To carry on the usual business of the office, care for scholarships, readmissions and veterans will require the services of the regular staff of three, with inadequate time for readmitted students and veterans. Further, credentials of veterans will include all types of training and experience, evaluation of which will entail expenditures of much time per person than is required for the usual applicant.

   To care for the above work properly, make possible statistical analysis of admission practice, for follow-up of readmitted students and for public relations with high school principals and counselors, another staff member will be needed. This person should be a college graduate, have a mathematical sense, be able to take over credential evaluation, be a good receptionist and potential guidance counselor.

Office of the Registrar

ALMA H. PREINKERT, *Registrar*

AS in practically all fields of activity, the war has brought considerable change to the University. Members of the armed forces have replaced many of the civilian students, and instruction has been concentrated on war training programs. The Army and Navy have detailed students to study in the Schools of Dentistry and Medicine, and under the Army Specialized Training Program men in the service have received pre-engineering, pre-dental, pre-medical, language, and advanced engineering instruction. The University has been able to provide, in cooperation with the U. S. Office of Education, specialized training in engineering, science and management courses to large numbers of students.

Speed in the completion of educational training was recognized at the very beginning of the war to be of primary importance. In order to supply war needs for specially trained men as rapidly as possible, a program of instruction on a year-round basis was inaugurated beginning with the year 1941-42 when a third semester's work was offered during the summer of 1942. To coordinate civilian work with the Army Specialized Training Program which began in the summer of 1943, a four quarter plan began July, 1943. Under these plans, students have been able to remain in attendance on a twelve months basis and can receive their degrees in approximately three years.

The registrar's office has been seriously affected by University changes, especially the one involving the quarter system, which calls for the repetition of all operations four times a year at twelve week intervals. In addition, there has been the loss of the services of students available under the National Youth Administration, and numerous changes in personnel have involved the training of new employees. The withdrawal of large numbers of students and an unusual demand for transcripts of records have also added to the pressure of the work of the office.

Tables giving information concerning the enrollment of students, including extension and short courses; the degrees conferred and certificates awarded; and the instructional staff are shown on the following pages:

ENROLLMENT OF STUDENTS

COLLEGE PARK

Resident Collegiate Courses:

Academic Year	(Three Semesters) 1942-43			(Four Quarters) 1943-44		
	Men	Women	T'tl.	Men	Women	T'tl.
College of Agriculture	296	17	313	83	23	106
College of Arts and Sciences	727	516	1243	361	619	980
College of Business and Public Administration	320	38	358	67	63	130
College of Education	132	206	338	60	150	210
College of Engineering	822	4	826	372	4	376
College of Home Economics	....	289	289	....	261	261
Graduate School	168	104	272	164	73	237
Army Specialized Training Program				1593	....	1593
Total Academic Year, College Park, Less Duplications	2459	1170	3629	2700	1193	3893
Short Summer Session	73	251	324	24	117	141
Total Resident Collegiate, College Park, Less Duplications	2518	1376	3894	2716	1287	4003
Extension Courses:						
Mining	77	.....	77	98	.....	98
Engineering Defense	2007	743	2750	2002	776	2778
Fire Service	.....	.....	.....	648	.....	648
C.A.A. Civilian Pilot Training Program	114	.....	114	.....	.....	.....

Short Courses and Conferences:						
American Home Economics		326	326			
Boys' and Girls' Club 4H Victory Day	300	450	750	330	330	660
Food Conservation Conference		40	40			
Greenkeepers Short Course	38		38	20		20
Hatchery School	46	14	60			
Homemakers Day		1850	1850			
Maryland Boys Legislature				171		171
Maryland Congress of Parents and Teachers	4	71	75			
Training Women for Farm Labor		54	54			
Turkey Improvement School	17	8	25			
Volunteer Aides in Child Care		50	50			
Women's Farm Short Course		27	27			
Total Short Courses and Conferences	405	2890	3295	521	330	851
Total All Courses, College Park, Less Duplications	5121	5009	10,130	5985	2393	8378

ENROLLMENT OF STUDENTS

BALTIMORE

Resident Courses:

Academic Year	(Three Semesters) 1942-43			(Three Semesters*) 1943-44		
	Men	Women	T'tl.	Men	Women	T'tl.
School of Dentistry	389	1	390	401	1	402
School of Law	102	19	121	76	23	99
School of Medicine	455	25	480	447	28	475
School of Nursing		172	172		193	193
School of Pharmacy	138	11	149	95	17	112
College of Education	128	162	290	187	174	361
Graduate School	55	23	78	55	19	74
Total Academic Year, Less Duplications	1266	410	1676	1258	450	1708
Short Summer Session	48	12	60			
Total Baltimore, Less Duplications	1292	419	1711	1258	450	1708
Grand Total All Courses, Less Duplications, College Park and Baltimore	6349	5409	11,758	7198	2826	10,023

DEGREES AND CERTIFICATES

	1942-1943			1943-1944			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Honorary Degrees	2	----	2	3	----	3	5	----	5
Honorary Certificates of Merit in Agriculture	3	----	3	2	1	3	5	1	6
COLLEGE PARK									
College of Agriculture, Bachelor of Science	62	4	66	26	1	27	88	5	93
College of Arts and Sciences, Bachelor of Arts	40	55	95	15	64	79	55	119	174
Bachelor of Science	79	21	100	34	22	56	113	43	156
College of Business and Public Administration, Bachelor of Science	64	1	65	29	6	35	93	7	100
College of Education, Bachelor of Arts	12	12	24	1	15	16	13	27	40
Bachelor of Science	25	103	128	9	37	46	34	140	174
College of Engineering, Bachelor of Science	76	----	76	81	1	82	157	1	158
College of Home Economics, Bachelor of Science	----	68	68	----	59	59	----	127	127
Total Bachelors' Degrees:									
Bachelor of Arts	52	67	119	16	79	95	68	146	214
Bachelor of Science	306	197	503	179	126	305	485	323	808
Total	358	264	622	195	205	400	553	469	1022
Graduate School:									
Doctor of Philosophy	28	1	29	5	1	6	33	2	35
Master of Arts	14	10	24	13	9	22	27	19	46
Master of Science	11	5	16	8	4	12	19	9	28
Master of Education	12	13	25	3	17	20	15	30	45
Total, Graduate School	65	29	94	29	31	60	94	60	154
Total Degrees in Course at College Park	423	293	716	224	236	460	647	529	1176

BALTIMORE

	1942-43			1943-44			Total for Biennuim		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
School of Dentistry:									
Doctor of Dental Surgery	84	----	84	74	----	74	158	----	158
School of Law:									
Bachelor of Laws	15	4	19	15	5	20	30	9	39
Certificate of Proficiency	---	----	----	1	----	1	1	----	1
School of Medicine:									
Doctor of Medicine	95	3	98	85	5	90	180	8	188
School of Pharmacy:									
Bachelor of Science in Pharmacy	26	1	27	22	2	24	48	3	51
School of Nursing:									
Graduate in Nursing	---	46	46	---	49	49	---	95	95
Total Degrees and Certificates in Course at Baltimore	220	54	274	426	298	724	417	115	532
Grand Total, All Degrees and Certificates	648	347	995	197	61	258	1074	645	1719

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

COLLEGE PARK

1942-1943

	Agriculture	Arts and Sciences	Business and Public Administration	Education	Engineering	Home Economics	Library Staff	Physical Education	Military	Short Summer Sessions Specials	Total Less Duplications
Professors	18	23	5	4	5	4	—	2	1	—	62
Lecturers	2	4	1	2	4	1	—	—	—	—	14
Associate Professors	9	14	5	1	3	—	1	—	—	—	33
Assistant Professors	15	29	5	1	10	3	—	2	11	—	76
Instructors	7	52	5	10	7	8	2	5	3	4	103
Assistants	2	9	—	7	—	2	—	—	1	—	21
Graduate Assistants	4	34	2	—	—	—	—	—	—	—	40
Fellows	3	9	—	—	1	—	—	—	—	—	13
Critic Teachers	—	—	—	54	—	—	—	—	—	—	54
Extension	—	—	—	—	113	—	—	—	—	—	113
	—	—	—	79	143	18	3	9	16	4	499
Total	60	174	23	—	—	—	—	—	—	—	—

1943-1944

Professors	17	22	8	3	5	4	—	2	—	—	61
Lecturers	1	1	1	—	4	—	—	—	—	—	7
Associate Professors	10	10	3	1	6	—	1	—	—	—	31
Assistant Professors	8	32	4	2	6	2	—	3	9	—	66
Instructors	2	51	1	7	9	9	1	9	4	3	96
Assistants	—	6	1	—	—	—	—	2	—	—	9
Graduate Assistants	3	31	—	—	—	—	—	—	—	—	34
Fellows	—	7	—	—	1	—	—	—	—	—	8
Undergraduate Assistants	—	6	—	1	1	—	—	—	—	—	8
Critic Teachers	—	—	—	22	—	—	—	—	—	—	22
Extension	—	—	—	—	136	—	—	—	—	—	136
	—	—	—	—	—	—	—	—	—	—	—

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

BALTIMORE

	1942-43	1943-44
Arts and Sciences	9	9
Dentistry	63	64
Education	31	33
Law	15	13
Medicine	271	233
Nursing	38	48
Pharmacy	23	21
Total Baltimore, Less Duplications	402	360
GRAND TOTAL, College Park and Baltimore, Less Duplications	890	802

Office of the Dean of Women

ADELE H. STAMP, *Dean*

THE impact of the war upon education in all of its phases is more important than most of us realize. It may, before it is over, amount to an educational revolution. This titanic struggle has changed considerably the work of the Dean of Women's Department. The war has brought with it social and economic upheaval and change. This in turn has affected the lives of all young people. On our campus the advent of the war has meant withdrawal of a great many students for military service. This, coupled with the death of many prominent former campus leaders, has brought home to the students the abrubt realization that the University too is at war. The coming of the Army Specialized Training Program to our campus, with almost 1200 young soldiers added to our student family, has created certain further adjustments and problems.

The women students are concerned with the problems of delayed or immediate marriages, accelerated programs of all kinds, women's place in a world at war and in postwar world economics, politics, and our part in this war. Present day activities are bound up in present day crises. Students come to us in ever increasing numbers for help and guidance in their emotional and academic problems.

Counselors of women students today need as never before training, experience, unlimited tolerance, sympathy and understanding, tact and courage in dealing with the problems of youth in this war period.

In 1942-43 it became apparent that the services of women were needed as never before in fields hitherto regarded as strictly masculine. The WACs, WAVES, SPARS, etc. called upon us to encourage the enlistment of college women in the armed services. Industry also called upon us to help them in meeting their demands. Occupational opportunities for women were greatly enlarged and their field of responsibility greatly increased. We attempted to meet our responsibility in this regard in 1942-43 by holding asemblies for all women students to publicize the contribution they could make in the armed services as well as in industry. In addition, a series of vocational guidance lectures and discussions was held to which all women students were invited.

Counseling and Guidance

The most important part of the work of this Department is that of counseling and guiding the individual student. To that end individual conferences are held with all new students which includes transfer students as well as freshmen. Interviews are also held with students having scholastic and financial difficulties as well as those having problems with extra-curricular activities and social adjustment. In addition, conferences are held with all senior women. Whereas some come for only one interview, we have a great many who spend literally hours in conference session for help and direction in their problems.

A well rounded guidance program should include interviews with each student each year. This was possible when the women students numbered one half of our present enrollment. That year the addition of two assistants made this possible. With the enrollment of women students now close to 1,300 it is impossible for three people to handle the counseling of all since all three have many other duties and counseling is only a part of their load. This department is greatly understaffed. In order to render the kind of service we should give to the women students we need the addition of a full time assistant dean and two counselors.

The 600 freshmen women who will enroll this autumn (and the 700-800 who will come in the next biennium) will present a full time job for one person. These young women will need help of many kinds: help in learning proper study habits; help in learning to budget money and time; help in the difficult adjustment from high school to college. They need the assurance of having a college official to whom they can bring the varied problems of orientation to college.

The two counselors would be graduate students on fellowships living in the dormitories. They would supplement the guidance work of the Dean of Women's department. They would lead students to analyze their own abilities, interests and resources, to solve their own problems.

Counseling is teaching of the most intensive kind and is counted as such in many universities. At the present time members of this department average twelve hours a week each in counseling. This is only a part of our duties and in order to meet our minimum responsibilities as far as the students are concerned, we must have additional help.

Housing

The crying need as far as housing is concerned is for more space. In 1943-44 when the Army took over Margaret Brent dormitory on forty-eight hours notice, we had no place to put the women students assigned there for the fall term. We took over four fraternity houses which we called "annexes" to help meet this housing shortage. These proved to be most successful. However, we were so crowded that in both the annexes and the one remaining women's dormitory some rooms were occupied by four women, others by three, and all single rooms had two occupants. In addition we had to turn away many Maryland students because of lack of space. This was true even though we had located additional off campus houses.

We need three more dormitories to take care of our present enrollment if we are to maintain minimum standards of college housing.

Miss Marian Johnson, Assistant Dean, has as her chief responsibility the housing of women students. Her accomplishments in this most difficult field have demonstrated that she is eminently fitted for this position both by training and experience.

Social Program: Student Organizations

The staff of the Office of the Dean of Women believes that clubs have wide oppurtunities in training for leadershlp. Students should be encouraged to assume only such responsibilities as club officers which they can carry without detriment to their scholastic record and to their health.

The social program on the campus has been greatly simplified during this war period. Large and elaborate parties have been succeeded by simple, inexpensive, informal parties.

All social activities are under the direction of Miss Rosalie Leslie, Assistant Dean, who is admirably suited by training, experience, and personality for this important part of the program of this office. She is also chairman of the Religious Life Committee and has done an outstanding piece of work with the various religious clubs.

On the whole the work of the student organizations has been very satisfactory for the years 1942-44. The Women's League has proved itself an effective and competent body in handling problems that arise

in connection with student life. The scope of this group includes dormitories, annexes, sororities, and off campus houses. The day students too have representation on the Executive Council of the League. Membership in Mortar Board, the only national senior honor society for women, is based on scholarship, leadership, and service. Its worthy purposes and high ideals are increasing forces for good on the campus and election to it is now recognized as the highest honor for women. Alpha Lambda Delta, freshman honor society for women, Women's Recreation Association, Panhellenic, and Day Dodgers Club have also made a real contribution to campus life.

The Victory Council organized in 1942 has made a definite contribution to our campus through its war work.

In 1943-44 a chapter of the American Red Cross composed of students was added to our campus.

Since the war has meant a decreased enrollment of men, only those in especially deferred groups and young boys remaining, our women have carried the main responsibility for student activities and programs. History indeed was made at the University when for the first time a woman was elected head of student government for both men and women.

Recommendations and Needs

1. Four additional members of the staff: An Assistant in charge of all freshmen women, two counselors, and a full time stenographer.
2. Three new dormitories.
3. That at the earliest feasible time a Student Union be built which will adequately meet the social and organizational needs of students.
4. That a Chapel, which would be a memorial to the Maryland boys who will not return, be built when the necessary funds are available.

Student Life and Registration

CHARLES E. WHITE, *Chairman*

DURING this time the committee has planned and printed programs for six registration periods. This includes the academic registration procedure as well as organization and social functions for the students. In connection with each of these a general social event, called a mixer has been held for the new students. In cooperation with the Religious Life Committee at each registration period a reception to the new students and local pastors has been arranged.

Near the beginning of each new term the committee has met with the Student Board and discussed student problems. In addition to this the Committee has had an average of three meetings each term to plan and discuss student affairs.

The work of the Committee is carried on chiefly by subcommittees which are as follows: Health and Sanitation, Social Events, Registration, Organizations, Day Students. The names of these subcommittees indicate somewhat their function. The committee on health and sanitation inspects conditions at fraternities, sororities and the public eating houses. The social committee meets each term with the social chairman of the student organizations and develops regulations for conducting student social affairs. The committee on organizations considers applications from new students for the privilege of forming new groups. The day student committee strives to better the campus conditions for these students and to draw them into university activities.

Report from Princess Anne College

R. A. GRIGSBY, *Acting Dean of Administration*

The Staff and the Curriculum

DURING the twenty-one months of this period, three instructors were inducted into the Armed Services and two resigned to enter War Industry. Nevertheless, by some replacements and through the willingness of those who remained to take on additional loads, the program of courses were kept sufficiently intact to maintain the scholastic standard.

A few courses, which did not seriously affect the curriculum were either discontinued for the Duration or substituted by other courses. One example of this was the substitution of gardening for girls in the place of Craft Design.

Enrollment

The enrollment was seriously affected by the Draft and by inducements offered by the war industries. The lowest drop in the enrollment was from September, 1943 to June 1944.

Public Contacts

While the annual 4 H Conference had to be discontinued and the Farmers and Homemakers Short Course had to be curtailed on account of war conditions, the College kept up beneficial contacts with the communities through many other special channels; Farm machinery

residents night classes for adults and Farmshop Short Courses for Vocational Teachers in the high schools of the State. The facilities of the school were offered for the conducting of First Aid courses, Fire-Prevention courses, and Incendiary Bomb lectures. Extension courses were given by college instructors in poultry and swine production in several of the neighboring communities for six and ten weeks periods.

Division of Agriculture

I. Major physical improvements
   1. Equipment
      a. Farm
         1942-43 - 1 electric pump (automatic)
         1942-43 - 1 Wilson electric heater (automatic)
         1943-44 - 1 electric bottle washer
         1943-44 - 1 mower (McCormick Derring)
      b. Poultry Plant
         1942-43 - 1 electric brooder
         1942-43 - 1 finishing battery (non-heated)
         1942-43 - 1 electric pump

II. Repairs:
   1. Built two "A" type hog houses
   2. Repairs and built farm gates, doors, and screens and a continued repair of farm fences.
   3. Built two Maryland type range shelters for poultry.

III. Production:
   1. Planned our program of farming to get crop benefit payments to purchase lime for soil, which is greatly needed.
   2. Placed special emphasis on the production of vegetables, meat, poultry and dairy products for the student body.

IV. Major needs:
   1. Farm buildings, utilities, etc.
      New horse barn or immediate repair of the present one.
      Fencing materials for stock pastures.
      Running water for dairy barn and poultry plant.
      House for farm laborer.
      Dairy barn modernly equipped, silo, etc.
      House and fenced lot for goats.
      Facilities and equipment for killing hogs, curing meats, dressing veal, cows, etc.
      Corn binder
      Hay bailer
      New farm truck

Green-house, fixtures and facilities.
Farm mechanic building (farm shop), fixtures and tools.
Side delivery rake
Grain combine

2. Poultry Plant
   Buildings to include students' quarters, feed and storage rooms, incubator room, etc.
   Enlarged space of the poultry plant with added buildings and facilities for broiler production.
   Facilities for killing and dressing poultry.
3. Campus
   Power lawn mower.
   Walks laid about the campus.
   Hard-surface and complete the campus roads.
   Grade, landscape and seed the lawn.
4. Laboratory and classroom
   Soils laboratory table (teacher)
   24 Laboratory stools
   2 Wall cabinets
   1 Distilling apparatus, wall type (electric)
   2 Balance Howard trip scales, double beam
   1 Balance dispenser, metric, with weights
   1 Sound 16 mm. projector
   Teaching facilities, such as, chairs, laboratory cabinets, book shelves, charts, etc.
5. Agricultural staff
   Poultryman
   Horticulturist
   Farm engineer (farm mechanic)
   Grounds caretaker

Division of Home Economics

The Home Economics Department assisted the Red Cross workers in Princess Anne by making bed shirts for hospital use.

Division of Mechanic Arts and Industrial Education

I. Major physical improvements

1. Construction of three sections of concrete sidewalk leading to new buildings.
2. Installed new sewer line between dining hall and main line behind men's dormitory.
3. Installed water line between green house and disposal plant.
4. Refinished floors of gymnasium.

5. Refinished floors in all room on second floor, women's dormitory.
6. Repaired roof and drain pipes of Agriculture building.
7. Welded a new back on boiler in men's dormitory.
8. Various general repair work done in all college buildings including teacher's cottages. (Electrical, plumbing, painting and carpentry work)
9. Installed automatic water pumping system at the poultry plant.
10. General major repairs on farm machinery, such as, welding and other farm mechanics work.

II. Courses or instruction given in relation to the War effort

1. Pre-Induction Courses offered in the Division of Mechanic Arts and Industrial Education; for all students majoring in Industrial Education. (General Shop Course, including welding, general metal, drafting and electricity.)
2. Increase of clock hours of laboratory work for all students majoring in Mechanic Arts and Industrial Education.

III. Needs

1. A full time man qualified to do general maintenance and repair work, with special mechanical skills in carpentry, plumbing, and electrical work.
2. Annual budget for Mechanic Arts and Industrial Education —$500.00. The Mechanic Arts budget is now $200.00 which is insufficient to purchase the necessary teaching materials and supplies and certain hand tools.
3. A larger budget for repairs and general maintenance in order to adequately take care of the growing needs of the physical plant.

IV. Request for special equipment to be used for instructional purposes and also in doing much of the work in repairs and maintenance

1. One electric welding outfit and accessories.
2. One cement and concrete mixing machine, gasoline
3. One electric floor machine for polishing, buffing, scrubbing, sanding and steel wooling
4. One extra-heavy duty universal saw bench machine for general woodwork ripping (for saws up to 18 inch)
5. One heavy duty oor type radial drill press and accessories.
6. One squaring shear—sheet metalworking machine, capacity, 30 inch.
7. One slip roll former—sheet metal working machine

8. One heat treating furnace, bench or pedestal type.
9. One tool room precision lathe—South Bend type.
10. One automobile engine and chasis.

Miscellaneous Improvements and Needs

One new building, a dormitory for women, was constructed during this period. On the occasion of its dedication this building and three others recently erected, were officially named.

Plans were laid for considerable expansion in the curriculum and the physical plant which, immediately following the end of the Duration will require additional staff and buildings.

Relationship Between the Colloge and its Students in The Armed Service

Systematic correspondence has been kept up between the College and all former students in the Service through special correspondence Committee composed of faculty members. This has had encouraging results as a morale builder among our boys.

The Alumni

This biennium has marked the best period of alumni general interest in the welfare of the college, since the date of the beginning of the Alumni Association.

The cooperation of all interested persons in the advancement of the College has been most encouraging.

Buildings and Grounds

THE scope of the Department of Plant Maintenance and Operation, since the 1942-1943 report, was further increased by the addition of buildings listed below:

Armory	Completed in 1944
Men's Dormitories (2nd group)	Completed in 1944
Cottages for Agriculture Employees	Completed in 1945
Gilbert House renovation	Completed in 1945
Buckley House renovation	Completed in 1945
SAE Addition	To be completed in 1946

This addition has moved the main axis of the campus 300 yards northward of the 1939 axis and increases the interior landscape and road maintenance problems.

*The war years brought a curtailment in male enrollment and accompanying labor shortages among the maintenance crews. Only work of emergency nature was possible for most of this period.

*In the post war period, it is hoped that all of the buildings can be restored to first class condition and be properly maintained.

Report of the Comptroller

The income for the two periods ended June 30, 1944 for the several divisions of the Board of Regents and the State Board of Agriculture were as follows:

1942-43 (Nine Months)

	State of Maryland	U. S. Government	Student Income	Sales and Miscellaneous	Total
Instruction, Baltimore	$ 106,637.74	----------	$ 357,273.47	$ 99,973.01	$ 563,884.22
Instruction and Allied Activities, College Park	189,572.16	$ 159,758.92	510,795.57	155,384.20	1,015,510.85
University Hospital	128,065.12	----------	4,194.00	604,311.88	736,571.00
Agricultural Experiment Station	92,797.40	90,194.79	----------	50,609.84	233,602.03
Extension Service	186,027.63	153,464.05	----------	33,253.49	372,745.17
Live Stock Sanitary Service	116,084.83	----------	----------	20,424.07	136,508.90
Business Management	158,908.96	----------	----------	370,231.56	529,140.52
Princess Anne College	22,192.25	11,843.52	5,261.13	11,989.45	51,286.35
Athletic and Other Student Activities, College Park	----------	----------	99,470.57	----------	99,470.57
Total	$1,000,286.09	$ 415,261.28	$ 976,994.74	$1,346,177.50	$3,738,719.61
Percentage of Total Income	27	11	26	36	100

1943-44 (Twelve Months)

	State of Maryland	U. S. Government	Student Income	Sales and Miscellaneous	Total
Instruction, Baltimore	$ 130,338.00		$ 532,179.10[1]	$ 139,578.03	$ 802,095.13
Instruction and Allied Activities, College Park	272,606.00	$ 200,655.04	608,548,76[2]	225,959.19	1,307,768.99
University Hospital	164,368.00		5,900.00	748,067.89	918,335.89
Agricultural Experiment Station	125,669.00	120,259.72		78,271.71	324,200.43
Extension Service	267,479.00	303,983.24		71,752.62	643,214.86
Live Stock Sanitary Service	227,640.00			30,256.49	257,896.49
Business Management	208,536.00		457,236.67[3]	431,744.39	1,097,517.06
Princess Anne College	30,749.00	17,049.48	3,115.31	11,286.67	62,200.46
Athletic and Other Student Activities, College Park			80,872.04[4]		80,872.04
Total	$1,427,385.00	$ 641,947.48	$1,687,851.88	$1,736,916.99	$5,494,101.35
Percentage of Total Income	26	12	31	31	100

[1]Including income from the War Department for Army and Navy Trainess in the Amount of $ 349,779.97
[2]Including income from the War Department for A.S.T.P. Trainees in the amount of 226,187.17
[3]Income from the War Department for A.S.T.P. Trainees 457,236.67
[4]Includes income from the War Department for A.S.T.P. Trainees 12,409.67

Total Income from the War Department 1943-44 $1,045,613.48

The income for the two periods ended June 30, 1944 for the several divisions of the Board of Regents and the State Board of Agriculture were as follows:

Vol. 44 August 1, 1947 No. 6

OFFICIAL PUBLICATION

OF THE

UNIVERSITY OF MARYLAND

BIENNIAL REPORT ISSUE

1944 - 1946

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AND

STATE BOARD OF AGRICULTURE

Including a summary of the work of the University of Maryland, the Agricultural Experiment Station, the Extension Service, the State Board of Agriculture, and other branches of work under the jurisdiction of the University and State Board of Agriculture.



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Official publication of the University of Maryland, issued once during May, semi-monthly during June, July and August and bi-monthly the rest of the year at College Park, Maryland. Entered as second-class matter under Act of Congress of August 24, 1912.

Chairman of the Board of Regents of the University of Maryland and State Board of Agriculture.

Sir:

On the following pages you will find brief reports of the various departments of the University of Maryland and of the State Board of Agriculture. The report includes all work done under each board for the biennium ending June 30, 1946.

There is no special report by the President, as the progress of the University, in its various departments, is clearly outlined in the reports of departments. The Extension Service and the Agricultural Experiment Station publish separate reports at some length.

Suffice for the President of the University to express to the Board of Regents and the Governor and the Legislature his great appreciation of the cooperation they have given in the many problems incident to the operation of the University. The University's whole program is built on service to the people of the State and of the Country. The measure of its worth and of its growth will be the measure by which such services are successfully rendered.

Sincerely,

H. C. Byrd,

President.

LETTER OF TRANSMITTAL

His Excellency Governor Herbert R. O'Conor,
and the General Assembly of Maryland,
Annapolis, Maryland.

Sir and Gentlemen:

The Board of Regents of the University of Maryland and the Maryland State Board of Agriculture herewith render a report of the work of the several departments under their jurisdiction for the past two years.

Very truly yours,

WILLIAM P. COLE,
Chairman of the Board of Regents of the University of Maryland and State Board of Agriculture.

BOARD OF REGENTS

July, 1946

WILLIAM P. COLE, JR.....100 W. University Parkway, Baltimore
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Vice-Chairman

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College of Agriculture

T. B. SYMONS, *Dean*

DURING the biennium ending June 30, 1946, the College of Agriculture met successfully the problems of early postwar adjustment in student body and staff. Due to the severe labor shortage on farms and the needs of the armed services, enrollment continued low in the first portion of the biennium, when 137 students were enrolled, but it climbed to a new high of 486 students in the registration of September, 1946. This substantial increase in enrollment, many of whom were returning veterans, produced severe problems, especially in freshman agricultural subjects, which problems were handled successfully due to the splendid cooperation of the teaching staff.

All departments, despite reduced personnel, offered a full complement of subjects, though at a reduced student enrollment. This was accomplished by increased sacrifice of time and effort by staff members.

The College was unable to fill all of the demands for trained agricultural scientists during the period, and all departments reported a shortage of graduates to fill positions in agriculture, in business associated with agriculture, and from state and government agencies.

The curriculum in agriculture continues to emphasize training in the fundamental physical sciences, English, history, economics, and mathematics in which cases the extensive facilities of the College of Arts and Science are relied upon. In the various fields of applied agriculture all phases of agricultural research and practice are emphasized.

Among the teaching staff several important changes are noted. Dr. H. C. Cotterman, Assistant Dean, was elevated on July 1, 1946, to Dean of the Faculty of the University, and his place was taken by Dr. Fred Leinbach, Head of the Animal Husbandry Department. Dr. DeVoe Meade, Professor of Animal Husbandry, retired September 30, 1946, after 28 years of distinguished service to agriculture. Both of these men will be long remembered for their outstanding teaching activities.

Each student of the College is assigned to a Faculty Advisor, and this system has worked especially well. Students in the College have taken advantage of this arrangement which probably reflects in part the excellent job performed by the departmental advisors.

The increased mechanization of agriculture demands continued increase and moderization of all teaching facilities, including facilities and equipment of the Department of Agricultural Engineering.

In line with increased interest in the marketing of farm products, the Department of Agricultural Economics and Farm Management

has active plans for increasing its training facilities in this important branch of agriculture. In this department 29 undergraduates are specializing. Lieut. Paul R. Poffenberger returned to the staff in June, 1946, after service with the Navy in the Pacific. Associate Professor Emil S. Trollston resigned July 1, 1946, to accept a position with the College of Business and Public Administration of this Institution.

Thirteen majoring students are enrolled in the new five-year curriculum in Agriculture-Engineering. Enrollment in the course in Farm Machinery has increased to 48, thus taxing severely the space and facilities available. James R. Ward was made Associate Professor in Agricultural Engineering on January 11, 1945, and resigned for commercial work in August, 1945, being replaced by Guy W. Gienger. The teaching load prior to the arrival of Professor Ward was carried by Prof. Ray W. Carpenter, head of the department. Many students specializing in other departments take courses offered in Agricultural Engineering and facilities should be enlarged for this increased demand.

In the Dairy Department, Dr. G. M. Cairns was appointed in August, 1945, to succeed Dr. K. L. Turk, resigned. P. B. Larsen was appointed Assistant Professor of Dairy Husbandry on December 15, 1945, and M. F. Elmore as laboratory instructor in December, 1945. Glen Hoffman returned as Dairy Manufacturing Plant Superintendent in March, 1946, and resigned August, 1946, for commercial work. F. J. Gregarek was appointed to conduct teaching and research in Dairy Manufacturing in May, 1945, and resigned for commercial work in April, 1946. Prof. M. H. Berry resigned to accept commercial work in March, 1946. A total of 42 students are specializing in Dairy Production and Dairy Manufacturing.

In the Department of Horticulture, 61 students are specializing. Dr. I. C. Haut was made head of the department on May 1, 1946, replacing Dr. Charles Mahoney who resigned April 15, 1946. Prof. A. S. Thurston resigned for financial work in December, 1945. Associate Professor Mark Shoemaker continues active with general plans for campus buildings and landscaping. Dr. H. L. Shrader was given a leave of absence from July to December, 1945, to teach Horticulture in the American University at Shrivenham, England.

In Poultry Husbandry, where 16 students are specializing. Lieut. Col. James M. Gwin returned as Professor of Poultry Husbandry on May 15, 1946. Dr. G. M. Briggs, specialist in Poultry Nutrition, was appointed Associate Professor to succeed Dr. H. R. Bird on January 1, 1945, and he was made Professor on March 1, 1946. Associate Professor R. E. Phillips resigned in October, 1944, to become Chairman of the Poultry Department at Iowa State College.

In the Entomology Department, Miss Elizabeth E. Haviland was promoted from Graduate Assistant to Instructor in July, 1945, and Dr. H. S. McConnell returned from Army leave to resume teaching in the fall of 1946. Eight students are majoring in Entomology.

A total of 33 students are specializing in Animal Husbandry which has been strengthened by an increased number of courses. Dr. Fred Leinbach returned to full-time duty on the campus in December, 1944, after heading the National Livestock Conservation Program, and he was made Assistant Dean of the College on July 1, 1946. Lieut. (j. g.) James Outhouse returned from Navy service in June, 1946, to resume his teaching work as Associate Professor, and Ural G. Bee returned to the campus in April, 1946, after leave to teach in the American University at Biarritz, France. Professor Bee handled teaching in Animal Husbandry from February, 1944, to December, 1944, until the return of Dr. Leinbach. William E. Crow, Graduate Assistant, has assisted in laboratory instruction.

In the Agronomy Department, 32 students are majoring in Soils, and 19 in Farm Crops. In the Soils Division, Asst. Prof. H. B. Winant assumed teaching duties at the end of the biennium. Ensign Albin O. Kuhn returned after leave to resume his teaching in Crops on May 1, 1946. Conrad Liden was made Instructor in Agronomy (Crops) in February, 1946.

Interest continues active in courses in Veterinary Science offered by the Livestock Sanitary Laboratory staff. Courses in Animal Hygiene, Poultry Hygiene and Avian Anatomy are offered. The teaching work was handled by Dr. A. L. Brueckner from 1944 to 1946. Associate Professor Dr. John M. Coffin took over the teaching in the animal field at the end of the biennium. Dr. H. M. DeVolt who handled the poultry work during the biennium was promoted to Professor of Veterinary Science.

Twenty-two undergraduates are specializing in Botany and Plant Pathology. Dr. M. W. Woods returned from service with the U. S. Navy as Associate Professor of Plant Pathology in December, 1945. Dr. R. G. Brown was promoted from Assistant to Associate Professor of Botany on July 1, 1945, and Dr. W. F. Jeffers was similarly promoted to Associate Professor of Plant Pathology on July 1, 1946. Dr. H. G. Gauch was appointed Associate Professor of Plant Physiology on September 1, 1946. Assistant Professor H. G. Shirk resigned in March, 1946, and Dr. R. E. Jones, in May, 1946, both to enter commercial fields. Dr. H. G. DuBuy resigned to accept a position with the National Institute of Health in July, 1946, and Dr. R. N. Stewart, who was appointed Assistant Professor of Botany on July 1, 1946, resigned to join the staff of Columbia University in September, 1946.

In Agricultural Education 48 students are enrolled. There were no staff changes during the period.

Extension Service

T. B. SYMONS, *Director*

THE period included in this report started under wartime conditions and ended in the adjustment period immediately following close of the war. As the representative of the University of Maryland and the U. S. Department of Agriculture working with rural people on their farms and in their homes, the Extension Service had an important part in helping them to meet the unusual and emergency problems confronting them.

Of necessity, the program carried out was very different from that which would have been pursued under normal conditions. Contribution to the war effort was the dominant factor in determining what should be done during much of the period, and help in adjusting to a peacetime economy claimed major attention in the later period. It should be stated, however, that despite the emergency conditions and many handicaps, remarkable progress was made in a long-time program for improved agriculture and rural life. Credit for this achievement belongs to the teamwork that existed between the rural people, extension workers, farm and home organizations, and all agencies striving for rural development and betterment in Maryland.

In this brief report it is possible to summarize only a few of the more outstanding activities and accomplishments. A more complete report of the Extension Service is printed and submitted to the Board of Regents annually. Since a number of activities are assigned to the University of Maryland by the State Board of Agriculture and are administered by the Extension Service, a summary of progress for these is given also. In practically all of them, both regulatory and educational features are involved. The two features are operated together in the interest of efficiency and economy.

Demands upon extension workers for leadership in numerous wartime measures were extremely heavy. Although there was difficulty in maintaining adequate personnel, the Service was fortunate in being able to retain most of the county agents and home demonstration agents, but lost many valuable specialists to the armed service. A number of temporary assistants in the counties provided by funds from the War Food Administration helped meet the urgent need. Loyal and efficient local leaders trained in the extension program greatly magnified the effectiveness of the regular extension workers.

Production Records Surpassed—Production of food in record quantities, together with conservation of all available food supplies,

was the primary objective of rural people during the war period and the period following. In nearly all cases, Maryland producers met or surpassed the goals they were asked to reach. It took teamwork to achieve such records, and the Extension Service was one of the team. It provided all the information possible that would help the actual producers in any way, and the extent to which it was called upon for such information is an evidence of its value and need.

Extension Reached the People—The following figures from a tabulation of reports by extension agents for the year 1945 give a partial conception of the extent to which the people of the state were reached and served.

During 1945, the county agents and home demonstration agents made 27,416 farm and home visits to 13,925 different farms and homes in carrying on their work. They received 78,857 calls at their offices and 112,109 telephone calls pertaining to extension work. They distributed 80,594 bulletins containing information on subjects in which those receiving them were particularly interested. The attendance at 7,726 method demonstrations conducted by extension workers was 134,685, and agents and specialists participated in 5,298 other meetings of an extension nature that were attended by 215,487 persons. The reports showed that 53,131 families were influenced by the extension program during the year.

A significant feature of the work was the number of farms and homes reached for the first time during the two years. War emergency activities, such as victory gardens and food preservation, were responsible for many of these contacts, as approximately one-third were urban homes. It is an evidence also that farmers sought the assistance of the Extension Service during the emergency who had not done so in former years.

People Help Plan Their Programs—A prominent feature of extension work has been the extent to which the people served help to plan and carry out the programs. Reports show that in 1945 extension programs were planned cooperatively by extension agents and local committees in 593 communities. That is an average of nearly 26 to the county. One of the greatest accomplishments of extension work and one of the greatest tributes to its value as a method for building up the rural life and communities of the state is the extent to which local leadership has been developed and put into action. The reports of extension agents for 1945 show that 6,373 different voluntary local leaders or committeemen were actively engaged in forwarding extension programs with adults and 1,124 with 4-H club and older youth.

Farm Labor—Providing sufficient labor to produce, harvest and market the increased volume of Maryland crops and products

proved an extremely acute problem. In May, 1943, Congress requested the Federal and State Extension Services to take over the farm labor program. This was an entirely new project for Extension forces. It has continued through 1944 and 1945, and is still handled by the Service.

This program involved the recruitment of workers from all sources possible, their placement, transportation, and housing, including the provision and operation of camps for workers. A total of 13,800 seasonal workers was recruited in 1944 and 12,200 in 1945. From these, 165,000 placements were made in 1944 and 200,000 in 1945.

In 1945, more than 4,000 prisoners of war were used in the labor force. The remainder was made up of foreign workers, migratory workers, women, boys and girls, and persons engaged in other lines of business who helped in the food effort as a patriotic contribution. Deferment from military service of farm laborers helped in meeting the need for year-round workers with more or less experience, especially on dairy farms.

Full use of available machinery, both on a custom basis and exchange between farmers, was stimulated in addition to an exchange of labor and development of many ingenious labor-saving devices and techniques. Efficiency on the farm and in the home was emphasized and instruction was given to emergency farm workers. The educational program by all extension workers helped farmers with short cuts in achieving maximum production with minimum labor.

Cooperation was fostered, not only among the farmers themselves but among all agencies interested in the labor problem, including the Office of Labor of the War Food Administration, the War Manpower Commission, and the Third Service Command of the U. S. Army.

Soil Conservation—While obtaining record production from their land, Maryland farmers gave greater attention to conserving their soils than in any similar period in the past. The soil conservation program that was started just prior to the war had become so well established and so much sentiment for conservation had been built up that remarkable progress was made even under the handicaps of the war period.

This work is one of the best examples of the results of effective and wholehearted cooperation between the Federal and State governments, local groups, and individuals. Under the Soil Conservation Districts Law enacted by the Maryland General Assembly in 1937, such cooperation is made possible.

Maryland farmers have organized 22 soil conservation districts, covering 21 of the 23 counties. The Director of Extension is chairman of the State Soil Conservation Committee, under which the districts are formed. The educational facilities and experience on general agriculture of the Extension Service is coordinated with the work of the Soil Conservation Service technicians, who help farmers develop conservation plans and install the practices on their lands.

In sections of the state where drainage is a major soil conservation problem, a good start has been made. Thirteen group drainage projects have been completed, benefiting 19,428 acres of land on 143 farms.

Through educational work with the schools and youth groups, and with non-agricultural agencies, an understanding and appreciation of the importance of conserving natural resources is being instilled. A Conservation Forum held in Western Maryland brought together leaders in all phases of conservation in the state. Wide distribution of a digest of the addresses and discussions printed by the Extension Service has provided educational material for schools and organizations.

Improved Crops and Products—Anything that assisted farmers to obtain greater returns for the labor, time and materials expended during the last two years was of more than usual value because all of these were in short supply. There is scarcely a crop or farm product with which extension workers have not helped. Assistance was given in obtaining improved varieties and strains of grains, legumes, potatoes and other crops. Increased and more efficient use of lime and fertilizers were encouraged, and aid was given in reducing the damage by diseases and insect pests.

Rapid strides have been made toward establishing Maryland as a source of high quality livestock. Extension workers have assisted in obtaining purebred and high grade animals, in improved methods of feeding and management, and in the control of diseases and parasites. The feed situation during the last two years was one of the most difficult problems. For a number of years the Extension Service conducted a program designed to bring about greater production and more efficient use of home-grown feeds. The results of this program proved a boon to many farmers and breeders in meeting the conditions experienced during the trying times of scarce and inadequate feeds.

Artificial Breeding—One of the most significant steps in the history of Maryland's dairy industry was taken during this period. After an investigation by a competent committee, it was established that sentiment was virtually unanimous in favor of an organi-

zation for the purpose of carrying on artificial insemination of dairy cattle. An appropriation was made by the General Assembly to finance the initial steps in placing such an organization in operation. Extension workers had a prominent part in the educational program and in working out the type of organization which would most effectively serve the purpose, drafting constitution and by-laws, securing articles of incorporation, and in other ways.

Actual operation was started in April, 1946. At the close of the period covered by this report, a substantial membership was enrolled and was increasing rapidly. This organization promises to be one of the most important steps in improving Maryland dairy cattle, particularly those in the smaller herds.

Poultry—During this biennium, the poultry industry came to the front to claim first place in value among Maryland's farm products. The major expansion was in the broiler industry, which occurred in response to a call for maximum food production. The industry, however, was confronted with a number of severe adjustments to meet changing conditions. Following a period of record expansion, it was forced to retract materially because of limited feed supplies, limited coal for a period, shortage of labor, and various restrictions in prices and otherwise. In order to make these adjustments intelligently, the latest reliable information was essential. Extension workers were depended upon primarily for such information. They also rendered most valuable assistance in helping poultrymen meet the labor, feed, equipment, and other shortages.

Increased Tobacco Production—Starting in November, 1945, a special effort was made to increase the acreage of Maryland tobacco. The acreage grown was not keeping pace with the increase in production and consumption of cigarettes and the increased acreage of other cigarette tobaccos. As a result the Maryland leaf, which is in high demand for blending, was supplying a decreasing percentage of cigarette tobacco and threatening to become so small as to force the use of other tobaccos.

The Extension Service joined with other interested agencies in the industry in planning and carrying out an aggressive campaign for increased acreage of the 1946 crop. While it is not possible to measure the effect of the campaign along with other factors, the acreage in 1946 was 46,100 compared with 36,000 in 1945, and a 10-year average of 38,400. The county agents in the tobacco-producing counties and the specialists had a prominent part in carrying out the campaign.

Victory Gardens—Production of food to the limit was the goal throughout the period included in this report. It was recognized that home gardens afforded a source of production of an immense quantity of food, which meant better diets for the people at home

and the release of food for men in the armed services, for our allies, and later for famished people in devastated areas. Extension workers carried out an organized program to assist home gardeners each year. Particular attention was given to those in urban areas who were lacking in experience and needed information and guidance. Garden schools were held in all counties and in the larger centers of population. Publications giving simple, practical information were published and distributed widely. The radio was used, and all other methods that would help get the information to the victory gardeners. Various civic organizations cooperated in arranging schools, and community gardens were developed in Baltimore and some other areas.

Although a detailed survey of home gardens did not appear practicable, numerous reports show beyond question that a tremendous amount of food was grown and conserved. One county estimated that 3,800 farms had gardens and that there were 20,000 victory gardens.

Control of Pests—Reduction of the damage done by pests of plants and livestock became of greater importance with the increased need for food. Wartime conditions made many adjustments necessary in methods for controlling insects and diseases. Many of the materials which had been tried and proved could not be obtained, or were in short supply. New materials and substitutes had to be tested and information regarding their proper use conveyed to growers of the several crops. Probably there was never a year when a material for control of insects attracted as much interest and gave as great promise as DDT and some of the other new materials. Farm people were anxious to have the benefit of these effective control agents, and extension workers recognized their responsibility in seeing that they were used properly.

The long-time programs against certain insects and diseases, such as Japanese beetles, European corn borer, red stele disease of strawberries, etc., were continued so that the ground gained would not be lost and further progress would be made. Development of varieties and strains of certain crops that are more resistant to insect enemies and diseases was continued.

Among the outstanding steps in control of pests in the fruit orchards of Western Maryland was the establishment of a field station in the principal apple and peach producing area. An appropriation by the General Assembly made it possible to place an entomologist and a horticulturist in that area. They are giving their full time to insect control and other problems of fruit growers.

Home Demonstration Work—The home demonstration program was planned to meet the immediate needs of the people. It was the aim to help families meet wartime emergencies and at the same

time place emphasis on food production, better food conservation, nutrition, clothing, home furnishing, and home management.

The assistance and advice of extension agents and specialists were sought more than ever before in connection with preserving foods in various ways, family feeding problems, how to use local, surplus and new foods, and regulations under the rationing program. Development of freezing as a method of preserving foods afforded an opportunity for valuable help by extension workers.

The clothing situation increased the need and demand for information regarding means for prolonging the life of garments and fabrics on hand, remodeling, and home sewing. Homemakers were given information on care, repair, cleaning and storage of clothing, and on the newer fabrics and finishes. Each county has held one or more sewing machine clinics, which helped keep badly-needed machines in working order.

Rural women went far beyond the types of effort ordinarily associated with homemaking. In discussion groups, they had an active part in the study of such broad questions as inflation, deflation, price control, subsidies, and the United Nations Charter. The extension service workers recognized their responsibility to provide accurate and unbiased information as a basis for intelligent discussion and decision by the rural women.

Home demonstration agents and specialists cooperated with other agencies in developing and carrying out the nutrition program and other wartime measures. They taught nutrition classes of the Red Cross, assisted in community canning centers, and supplied leadership in various campaigns for conserving fats and other scarce products.

The Rural Women's Short Course at the University, which has been so popular through the years, was resumed in 1946. Attendance was the largest and the course the most successful that has been held.

Boys' and Girls' 4-H Club Work—Despite many adverse conditions, such as shortage of personnel for leadership, the necessity for boys and girls to assume heavier burdens in connection with farm and home operations, shortages of feed and other materials, 4-H club work made distinct progress. More members were enrolled and the patriotic desire of youth to serve caused many to increase the size of their projects and to carry food production enterprises as a part of their 4-H club work. The 12,795 boys and girls enrolled completed 11,051 projects. These included 1,283 acres of home gardens and 380 acres of market gardens; 1,968 dairy cattle and 425 beef animals; 3,365 hogs; 122,124 chickens and turkeys; 1,431

acres of corn and 372 acres of other cereals; 534 acres of potatoes; 90,013 meals planned and 117,519 meals served; 150,675 quarts canned; 7,910 garments made and 2,218 remodeled.

Along with their projects connected more directly with farming, home life and rural community life, the boys and girls of 4-H clubs employed their enthusiasm, ingenuity and training in carrying out various war emergency measures. The fact that it was possible for the Extension Service to provide a number of assistant agents in the counties made available the essential leadership for this work.

Marketing Farm Products—During practically all of this period, the situation with respect to marketing farm products was decidedly abnormal. Much of the effort was devoted necessarily to helping inform producers regarding government regulations, government buying programs, and other factors associated with the distribution of farm products under a war emergency economy. The programs designed to improve the marketing methods on a permanent basis had to be held in abeyance to an extent. In 1946, however, a start was made toward organizing and putting into effect a much more far-reaching and intensive program in the field of marketing farm products than has been carried on in Maryland in past years. This effort was in its early stage at the end of this biennium.

Postwar Program—In order to better prepare rural people for the adjustment from wartime to peace-time conditions, the Extension Service took the leadership in formulating a postwar program for Maryland agriculture. This program embodied the best thinking and judgment of 18 committees, each of which was composed of persons most capable of dealing with the particular phase with which it dealt. It was issued in printed form by the Extension Service and became the basis for discussions by Farm Bureau groups, Homemakers' Clubs, Granges, and other organizations. Without question, it was a most effective means for preparing people generally for the shift from war to peace.

Objectives Broadened—The war and aftermath of war placed upon the Extension Service a responsibility for broader service to rural people. Policies and measures of national and world-wide scope confront all people, including those on the farms. In order to form intelligent opinions on such questions, they must have unbiased facts and information. The Extension Service has a responsibility in providing this information and supplying the means for discussion, so that rural people may intelligently decide the issues.

The policy followed was to present the facts, both pro and con, so that people could decide the policy they wished to pursue or advo-

cate. That such a service was appreciated is evident from the interest in and reception given to efforts made thus far.

Work With Negroes—With increased personnel and better organization, the extension work with Negroes made greater progress than in any previous years. Appointment of a colored district agent to correlate and supervise the work of local agents proved very effective.

The work is conducted in the same general manner as with the white population. Extension specialists serve in the same way, and in counties having no colored agents the white agents serve the colored population.

Cooperation With Other Agencies—Excellent relations exist between the Extension Service and all organizations and agencies working in behalf of Maryland agriculture. Wartime conditions necessitated cooperation with a number of agencies which had not existed in former years. The farm and home organizations, as well as commodity and special organizations, have given staunch support to the work and greatly increased its effectiveness. Cordial relations and cooperation have also existed with the various federal agencies working within the state.

The Agricultural Experiment Station

W. B. KEMP, *Director*

THE biennium included in this report was one of transition from war to peace. Of the large number of staff members on leave for war service, more than half returned to their former work. Most of those who did not return accepted more lucrative positions with private industrial organizations. Studies having peace-time value that were held in abeyance during the war have been resumed. However, all costs have increased to such an extent that the total volume of work which can be supported is less than it was a few years ago.

Phases of work that have been completed appear in either station bulletins or scientific journal articles. Those that show definite progress short of completion are presented briefly in the annual reports.

Published results for the period from July, 1944, to June, 1946, are included in 11 bulletins, 42 articles in scientific journals and 19 miscellaneous publications. One hundred and sixty-five projects have been in progress during the period. Lists of publications and progress reports on work not completed may be found in the fifty-eighth and fifty-ninth annual reports which together cover the biennium.

Professional staff members returning from armed services include H. S. McConnell in the Department of Entomology; J. T. Mullady, Agronomy-Seed Inspection; Mark W. Woods in Botany; G. T. Hoffman in Dairy Department; Charles Williams and J. M. Gwin in Poultry Department; Conrad Liden and A. O. Kuhn in Agronomy Department; J. B. Outhouse in Animal Husbandry Department, and P. R. Poffenberger in Agricultural Economics Department.

There were 19 new appointees: Frances L. Cron in Agricultural Economics; Frieda Wertman, R. D. Rappleye and R. N. Stewart in Botany Department; G. M. Cairns, F. W. Taylor, I. A. Gould, J. C. Shaw, P. B. Larsen, C. T. Dellea and R. E. Stout in Dairy Department; Mary H. Smith, R. G. Hill and C. C. Stepanek in Horticultural Department; G. M. Briggs, E. W. Glazener, A. C. Groschke, R. J. Lillie and M. G. McCartney in Poultry Department.

Those on military leave who accepted employment elsewhere include: A. D. Hoadley, R. E. Jones, H. G. Shirk, I. D. Porterfield, Jack Amatt and C. W. Hitz

Also, there were 25 resignations for other positions: E. S. Troelston and Frances L. Cron from the Department of Agricultural Economics; Miye Yamasaki and K. C. Reynolds from the Department of Agronomy; M. Rabstein from the Department of Animal Pathology; M. A. Petty, Jane L. Showacre, Marguerite Toole, Frieda Wertman and Amanda Ulm from the Department of Botany; L. A. Moore, Mildred Whitlow,

F. J. Gregarek, M. H. Berry and Frank Taylor from the Dairy Department; C. H. Mahoney, Louise Marks, H. A. Hunter, E. H. Grater and J. E. Hawes from the Department of Horticulture; H. B. Owens from the Department of Entomology; J. P. Mattingly, R. E. Phillips, E. W. Glazener and A. C. Groschke from the Poultry Department.

Studies have been made of desirable postwar production adjustments on Maryland farms in keeping with probable needs. Also, farmers' estimates have been obtained for their expenditures for improvements in both physical plant and equipment. An idea of the accumulated need for such improvements may be gained from comparisons with prewar conditions. In the census year 1939, Maryland farmers spent $3,706,000 for implements and machinery and $3,203,000 for building materials. In the first two years of the post-war period, they planned to spend $36,990,000 for implements and machinery and $27,410,000 for building.

A disturbing result of the war is the change in Maryland farm real estate values. These have risen 70 per cent above the 1935-39 average, are still increasing, and for March, 1946, were just about the 1920 level.

The chief lines of agricultural research during the biennium have been conducted under the main headings of agricultural economics, agricultural engineering, farm crops and soils, live stock feeding, breeding and disease control, plant disease control, dairying and dairy products, control of insect pests, fruits and vegetables with much emphasis on methods of preservation to retain palatability and nutritive qualities, and poultry nutrition and breeding.

State Horticulture Department

THE State Horticultural Law prescribes definite responsibilities for the State Entomologist and State Plant Pathologist. The work of these two officers includes enforcement of regulatory measures and other duties in connection with control of insects and plant diseases. For the purpose of efficient administration, the work is coordinated under the supervision of the Director of the Extension Service.

During the biennium, the Department of Entomology, under the direction of Dr. Ernest N. Cory, State Entomologist, organized its activities to give maximum support to the many emergency and rapidly changing insect control problems arising under wartime conditions. The demand for maximum food production with inadequate labor, limited machinery, and a shortage of insecticides, created difficult problems in the control of many insects. Adjustment in spray programs and control recommendations were required in most of the major production fields. With the ceasing of hostilities in 1945 and

the release to the public in 1946 of new and highly publicized insecticides, such as DDT and benzene hexachloride, it was necessary for the department to devote considerable time to testing their effectiveness and adjusting their use in revised spray schedules, as well as informing the public as to their proper and safe use.

Nursery Inspection—There are approximately 288 establishments requiring inspection and certification. This work was done by the departments of entomology and plant pathology. Special inspections are required to enable nurserymen and individuals to move many types of plant material to other states and foreign countries. There were 424 certificates for this purpose issued during the biennium. Other special certificates included 959 to cover movement of materials to states having quarantines against Maryland on account of the European corn borer, and 231 permits to cover movement of currants and gooseberries to meet the requirements of the white pine blister rust quarantine.

Cooperation was given the Bureau of Entomology and Plant Quarantine in the inspection and certification of nursery stock, cut flowers, farm products, and other materials regulated under the Japanese beetle quarantine. There were 23,119 certificates issued in 1945 to cover the movement of 7,141,819 certified units.

New Insecticides and Equipment—Many new and powerful insecticides were developed for military purposes during the war. These materials were tested for fruit, vegetable and livestock work. Spray calendars were adjusted to include their use. Special attention was given to equipment for their application. Airplanes, fog generators, high-speed blowers, and machines designed to use gas-propelled aerosols were studied and demonstrated.

Greenhouse and Nursery Insects—Insect problems confronting growers of greenhouse and nursery products are handled in connection with the regulatory phases of the State Horticultural Law. A short course was conducted each year for nurserymen and greenhouse operators, and a newsletter was issued bi-monthly. The effectiveness of azobenzene, sodium selenate, and DDT as insecticides for greenhouses and nursery use were studied.

Fruit Insects—Field data were collected on all the principal insect pests. An orchard spray service based on this information was made available to growers through release of spray cards. Each year approximately 25,000 spray cards and 3,200 spray calendars were released. Growers throughout the state depend upon this service for timing their spray applications.

European Corn Borer—This insect is causing concern among canners and corn growers. Supplementing a program of colonizing parasites to relieve general and acute damage, basic studies were made

with a view to determining planting dates which would avoid or reduce injury. Early planted corn, on the whole, received greater injury than late planted corn.

Japanese Beetle—This is a serious pest of many ornamentals, horticultural and agricultural crops. Emphasis was placed on the establishment of disease and parasites for control. Milky disease and parasites are proving effective for reducing peak infestations in heavy infested areas. Trends in improved conditions are indicated by trapping records in Cecil County. During 1941 the average catch for a trap was approximately 36 quarts of beetles. During 1945 the average catch was only about one quart. In the biennium, 16,353 pounds of milky disease were manufactured and distributed on 12,438 properties. The total amount distributed in the state from 1940 to date is 61,679 pounds. This has been placed on 49,912 properties. During this period, 579 colonies of Tiphia parasites have been released.

DDT was found to be effective for killing bettles and the protection of plant foliage and early ripening fruit. Other developments in Japanese beetle control were the development of a new trap that kills bettles as they pass through and a new bait mixture to replace the extremely scarce and expensive attractants, geraniol and eugenol.

Livestock Insects—There is a tremendous interest among dairymen and stockmen in control of flies, lice and other pests of livestock. A state-wide program was inaugurated to demonstrate that barns and dairies could be freed of flies and that animals could be protected from the ravages of flies, lice and mosquitoes by use of DDT. Educational work was done in all counties. Six counties were aided in organizing cooperative spray services. DDT was proved an efficient insecticide for eliminating flies from barns and protecting animals on pasture from annoyance by horn flies, house flies, stable flies, and mosquitoes.

Apiary Inspection—During the biennium, 662 inspections of apiaries were made, including 7,629 colonies of bees. These inspections were made to determine the extent and location of bee diseases and to eradicate infection when found.

Emphasis was placed on the benefits from migratory beekeeping and the utilization of bees for increased production through pollinization of apples, cherries, cucumbers and cantaloupes. It is estimated that 4,500 colonies of bees were rented to orchardists during the biennium. The number rented to cucumber growers was small, but has opened a new angle to cucumber growing. It has demonstrated that beekeepers may move their bee hives from areas of low productivity to areas of high productivity to obtain satisfactory crops at a profit.

Potato Inspection and Certification—Regulatory work in control of plant diseases was under the direction of Dr. R. A. Jehle, State Plant Pathologist. Both white potatoes and sweet potatoes were inspected each year, in the field and in the bin, to provide seed that was known to be free from disease. In 1945, 36,340 bushels of white potatoes inspected were found eligible for certification, and 44,519 bushels were eligible in 1946. In 1945, there were 7,900 bushels of sweet potatoes eligible for certification, and 5,623 bushels in 1946.

Potato Wart—There are 23 gardens, all located in Allegany County, that are known to be infected with potato wart. Nine of these infected gardens in 1945 and 10 in 1946 were supplied with varieties known to be immune to the disease, grown under the supervision of the State Plant Pathologist. No potatoes were grown in the remaining infected gardens.

White Pine Blister Rust—This disease has been found in all counties where white pines grow naturally, or have been planted. In cooperation with federal agencies, these areas have been designated as blister rust control areas, and shipment of currants, gooseberries, and other Ribes plants into these areas is prohibited. During the past two years, 482 requests for permits for shipment of such plants were received, of which 185 were refused.

Dutch Elm Disease—A new outbreak of Dutch Elm disease occurred in 1945 along the Monocacy River in Frederick County and 267 elm trees infected with the disease were located. Twenty-two infected trees were located in 1946. All work on the Dutch Elm disease is conducted in cooperation with federal agencies. Since 1933, 120 confirmed Dutch Elm diseased trees were destroyed, 108 of them being destroyed in 1944-45.

Strawberry Inspection and Certification—In the spring of 1946, 436 acres of strawberry plants were inspected for red stele disease. Forty-one acres, or 9 per cent, were condemned. Most of these fields were grown by berry growers who wished to sell plants. Fall inspections covered 453 acres.

The red stele resistant Temple strawberry, which was introduced by the University of Maryland and U. S. Department of Agriculture, proved to be a very good commercial variety and highly resistant to red stele. Ordinary varieties were completely killed by the disease in many instances, while adjoining plantings of Temple produced excellent crops.

State Inspection and Regulatory Service

L. E. BOPST, *State Chemist*

THIS organization is charged with the enforcement of the four agricultural laws which insure the quality of feed, fertilizer, lime, and certain insecticides and fungicides sold in Maryland.

In brief, the work of the department is concerned with collecting, analyzing, and making reports on official samples; approving or recommending changes in labeling information as submitted by manufacturers and dealers; working in cooperation with other state and federal agencies in control-law enforcement problems; preparing information for federal presentment against manufacturers charged with interstate feed-law violations; and publishing the results of analytical work at regular intervals during the year.

In addition to the official samples collected and analyzed, samples submitted by residents of the state and public institutions are admitted to analysis, with reports being sent to persons interested.

The regulatory laws of Maryland serve and protect both manufacturer and consumer. The consumer can buy feed, fertilizer, lime, and insecticides on the basis of the manufacturer's statement on the package, knowing that if the statement is not correct he is entitled to redress. The manufacturer, in turn, can sell his product and guarantee it, knowing that his competitor must follow the same procedure. This service has removed suspicion and rewarded honesty. It has built confidence in the mind of the buyer toward the manufacturer, as well as fostering a feeling of confidence among the manufacturers themselves. The individuals who administer the regulatory laws do so in a spirit of mutual responsibility and helpfulness, and from this attitude much good has been accomplished.

Condensed Statement of Control Activities

Feed

	July 1 1945	July 1 1946	Total
Official Samples Examined	2,070	2,035	4,105
Senders' Samples Examined	186	193	379
Vitamin Materials Assayed	30	21	51
Registrations	2,089	2,491	4,580
Citations Issued	31	18	57
Fertilizers			
Official Samples Examined	766	846	1,612
Senders' Samples Examined	28	18	46
Registrations	618	569	1,187
Citations Issued	2	1	3

Limes

Official Samples Examined.....	119	134	253
Senders' Samples Examined.....	10	12	22
Registrations	120	123	243
Citations Issued	1	...	1

Insecticides

Official Samples Examined.....	359	416	775
Registrations	824	948	1,772

The year 1944, the fourth under wartime restrictions, was one of intense activity as well as one of readjustment. Greater vigilance than ever before was necessary to the administration of the laws enforced. Decreased personnel were subjected to additional obligations, and all were successfully met.

Serious feed deficiencies, in the number of 31, were cause for more than the usual number of prosecutions to be initiated. With the cooperation of the Food and Drug Administration proper action has been taken against the offending manufacturers.

As the year 1945 progressed it became more and more evident that the expected fast recovery from wartime shortages would not materialize. As production for war needs rushed to a climax other industries suffered correspondingly. The need for vigilance in control work increased rather than decreased. It is gratifying to report that the number of prosecutions for serious violations decreased to a total of 18 during this period, however.

An interesting application of authority vested in the department by the State Lime Law was the suspension of licenses issued to a manufacturer for continued sale of agricultural liming materials seriously deficient. This action was taken as a last resort, after other means of correction failed. Upon installation of new processing machinery and the opening of a new quarry of better stone, the company was allowed to resume operations. Chemical analysis indicated that the new line of products met label representations.

Most significant among the year's changes undoubtedly was the introduction of the new insecticide material popularly known as DDT. A wave of these products followed the phenomenal publicity given to the new material, and brought numerous cases of deficiencies, especially among smaller manufacturers. Amply forewarned of the trend, the Inspection Service was ready to test all products by tried and authoritative methods of analysis. It can be reported that those products failing to meet guarantees were removed from sale.

Live Stock Sanitary Service and Department of Veterinary Science

A. L. BRUECKMAN, *Director*

THE activities of the Live Stock Sanitary Service were intensified and increased during the above period as will be pointed out more fully below. The work can be even more greatly expanded in the years to come.

Personnel

In order to better organize the activities of the service, Dr. J. Walter Hastings, Sr. of Cambridge, Maryland, who has been associated with the department for many years, was appointed Assistant Director in Charge of Field Work on the Eastern Shore. It is desirable and essential that a similar position for the Western Shore be filled, and a suitably trained and experienced veterinarian is being sought.

It was virtually impossible to make additions to the staff during the war period. As soon as men were discharged from the armed forces, suitable individuals were selected and added to the staff. Among these may be mentioned Dr. Kingston S. Wilcox, a graduate of Yale University with a Ph.D. degree in bacteriology, Dr. Paul C. Brown, a veterinary graduate of Michigan State College with special work in infectious mastitis, Dr. Robert E. Swope, a veterinary graduate of the University of Pennsylvania with special training in brucellosis control, Dr. John M. Coffin, a veterinarian from the University of Pennsylvania with a great many years' experience in practice and who will have charge of our teaching and help with the live stock belonging to the University of Maryland, Dr. George W. Green, a veterinarian from Michigan State College, who is an addition to our field force, Major Reginald L. Reagan, from the Army Medical School at Walter Reed Hospital, with many years' experience in virus work, and Dr. John R. Fenyk, a graduate of Rutgers University in poultry husbandry and Kansas State College in veterinary medicine, who has charge of our Centreville Laboratory. There have recently been added to the staff two bacteriologists and two college trained laboratory technicians. Plans are under way for the appointment of a veterinarian with special training in physiological and pathological chemistry as well as veterinarians for laboratories to be established at Hagerstown and Frederick. It will be necessary also to add more veterinarians for our field work as soon as they are available.

Tuberculosis Eradication

This project has been carried forward on the basis of the individual herd and the area. During the period of the report, 16,617

herd tests were made in accredited herds comprising 350,527 individual animals tested. Of these tests 161 proved positive and 156 suspicious. Virtually all of these tests were made by private veterinarians at the expense of the owner.

Tests were also conducted by official veterinarians in herds under supervision in the cleanup process or in area testing work. In this category there were 6,294 herds examined comprising 62,521 animals of which 265 proved to be positive and 109 suspicious. Therefore, tuberculin testing was conducted in 22,911 herds comprising 412,048 animals.

The animals slaughtered because of positive and suspicious reactions totaled 546.

On the basis of the retesting of the counties, the reaccreditation as modified accredited areas has been continued by the United States Bureau of Animal Industry as part of the nation-wide tuberculosis eradication program. The entire State of Maryland is considered as a modified accredited area.

Paratuberculosis

(Johne's Disease)

This infectious disease of cattle is caused by an organism similar in some respects to the germ which causes bovine tuberculosis. It manifests itself as a rapidly debilitating diarrhea. The causative germ is found in the intestinal contents and hence infected animals very seriously expose the balance of the herd. To date it has not been proved that it is to be a serious menace on a state-wide basis, but has been severe in some individual herds. A test somewhat similar to the tuberculin test is used on an experimental basis in the detection of infected animals. This test has been applied to 1,097 cattle. Where reactors have been found they have been removed for slaughter.

Reactors are also detected on the basis of the clinical condition and under these conditions the animals may be appraised and sent for slaughter, subject to post-mortem examination. During the period under discussion, 124 positive animals and 45 individuals showing suspicious to the test have been slaughtered.

This work is to be expanded with the idea of preventing as far as possible the further spread of the disease.

Bovine Brucellosis

(Bang's Disease)

Economic conditions in the milk market still continue to be such that animals capable of producing a financial return from the milk are being retained in commercial dairy herds. This has materially held back eradication procedures through the test and slaughter

method. There are at this time 4,144 herds in the state comprising 69,884 animals listed as accredited Bang's disease free. In the main, these are made up of pure bred animals although there are a great many small commercial dairy herds included. There are also under state and federal supervision 20,392 herds comprising 99,891 cattle. A great many of these herds are in the process of being accredited or are units too small to be given an accredited certificate.

There are also 2,702 herds comprising 21,482 animals which are being tested by private veterinarians at the expense of the owner under authorization from the Live Stock Sanitary Service.

During the two year period 3,795 cattle positive to the test for Bang's disease were slaughtered.

The calfhood vaccination program in brucellosis control has been greatly expanded. This expansion has taken place not only in accredited herds and in herds under supervision, but also in those units which have been tested and in which reactors are being maintained. The work is also being pushed in those herds in which no testing is being conducted at the present time. The aim in all of these cases is to produce sufficient numbers of vaccinated replacements to take care of the future needs of the herds. These replacements are particularly valuable in those herds in which infection is still present and to which it has always been dangerous to add clean animals with no immunity or resistance.

This calfhood vaccination work is being carried on by private practicing veterinarians with vaccine purchased and furnished by the Live Stock Sanitary Service and by official veterinarians employed by the state and federal government with vaccine provided by the United States Bureau of Animal Industry. During the period of the report somewhat incomplete records show that 34,193 calves were injected.

The injection of mature animals with the vaccine has been attended with excellent results in the immediate control of abortions in some herds. In other units the results have not appeared to be satisfactory to the owner in that injected animals toward the end of pregnancy did not carry their calves through to maturity. This condition certainly arises from the fact that the individual was infected at the time the material was injected, and hence there was no time for sufficient immunity to develop to prevent the premature birth of the calf.

Immunization of the overage animal with the vaccine leads to the appearance of a positive blood reaction which is maintained at a high level for some years and sometimes for the lifetime of the individual. Those people considering the use of the mature procedure are informed that it is simply on an experimental basis,

that the injected animals will never be eligible for indemnity payments, that the future sale of the injected animals will be greatly restricted, and if the herd is not to be maintained as a complete unit for some five or six years, it will not prove advantageous to use this procedure. Mature vaccination is not permitted without the adoption of calfhood vaccination, with the thought that this practice will allow the development of sufficient vaccinated replacements to take the place of the adult vaccinated animals at the time they are removed because they are overage or otherwise unprofitable.

A plan of mature vaccination of clean herds of beef cattle was inaugurated during this period. This was put into effect because of the fact that the beef herd is never as great a public health menace as the dairy herd, and it is maintained in general as a factory for the production of young animals, for sale as breeding individuals. The plan calls for the injection of all mature animals and the separation of this group from the young individuals to be vaccinated and offered for sale. This young group is separated from the mature herd and tested and with satisfactory results is accredited. Animals may be sold into other states without restrictions.

Swine Brucellosis

This disease of swine has been introduced into Maryland through the importation of breeding stock from other states. Even at this time the malady is not present extensively in our herds of breeding stock. A definite plan for the control and eradication of the disease and for the establishment of accredited brucellosis free swine herds has been formulated and put into effect. At the present time there are four farms which are accredited and tests have been conducted during this period in 63 herds containing 859 animals. Infection has been shown to be present in only two of these groups.

Cognizance is being taken of the possibility of the introduction of the disease in breeding stock and a provision is being put into the interstate shipment regulations requiring that all swine for breeding purposes have passed a negative agglutination test for brucellosis in dilutions 1-25 and higher. Because of the fact that virtually no states have set up a program for the accreditation of herds it was inadvisable at this time to introduce the further restriction that animals could only be shipped in from a clean herd and on a recently conducted negative blood test. It may be pointed out in this connection that the germ causing the disease in swine is capable of setting up a severe disease in humans much more serious than undulant fever contracted from the bovine germ. Therefore, this disease introduces again the necessity for close cooperation between the State Department of Health officials and the Live Stock Sanitary Service.

Infectious Bovine Mastitis

This disease of the udder of the cow without question is causing the greatest loss to the dairymen in Maryland and in the whole United States. The detection of the disease and the identification of the causative germ are procedures which belong in the hands of trained veterinarians with laboratory facilities. The identification of the infected individuals and even the infected quarters in the individual cows are only minor steps in the control and eradication program. With our hampered facilities during the war period, the demands upon the laboratories and diagnoses have still continued at a rather high level. During the present period milk samples have been submitted from 22,277 cattle in 607 dairy herds.

Prior to the outbreak of the war a research program was conducted at the laboratory at College Park with one full-time veterinarian in charge. At that time diagnostic procedures and chemical treatments were being combined in some studies. From the time that this veterinarian left the service to enter private practice until recently, no one was available to continue these studies. Plans for the continuation of mastitis research will be referred to under "Research Studies."

Pullorum Disease

The program for the control of this serious malady affecting poultry has been in effect in Maryland since 1927. The attached graph and chart will show the progress of this work in respect to the increase in the volume of testing and the percentage of infection. It will be noted that in 1927, three flocks in which 3,725 tests were made showed 21 percent of the birds reacting positively, and in contrast to this, in 1945 in 2,013 flock—837,473 tests were made with an infection rate of 1½ percent.

The growth of this work was greatly accelerated when the National Poultry Improvement Plan was inaugurated. This plan comprises bird improvement and pullorum disease control and is the outgrowth of a desire on the part of forward-looking poultry producers to improve the quality of chicks produced and to improve the livability. In the early years of the work in Maryland, the bird improvement phase was separated from the pullorum control. During the present period, however, the supervision of all of the work was placed in the hands of Dr. Charles R. Davis of the Live Stock Sanitary Service.

In furtherance of the bird improvement work, culling schools had been conducted at the University for a number of years. These schools were more or less discontinued during the time of the war. Recently a school was held at the University and was attended by seventy-three people interested in becoming proficient

in this type of work. Most of this group qualified to do official flock selection work after having attended this school.

In 1942 the Maryland Poultry Improvement Board adopted as official classifications for Maryland "Pullorum Passed" and "Pullorum Clean." The first of these classifications simply means that the flock has passed one clean test and the second classification refers to the fact that the flock has shown clean tests on two successive examinations at least six months apart. Records indicate that there has been a tremendous increase in the interest of hatcheries in the state in the adoption of the control program. For instance, in 1935 only eleven hatcheries with an egg capacity of 737,000 were signed up, whereas for the current season seventy hatcheries with a capacity of 11,335,380 eggs have signed an agreement to work toward the passed or clean rating. These latter figures mean that approximately 53 percent of the hatcheries and 83 percent of the total egg capacity in the state have decided to go along with the control program.

Several assistants have been furnished to Dr. Davis making it possible for many more contacts with hatchermen and flock owners, and an increasing number of flock inspections. It is clearly evident in this as well as in other endeavors that personal contacts prove of great value in putting over a program.

Rabies

At the beginning of the period of this report rabies was present rather extensively in Maryland having been found in Anne Arundel, Baltimore, Cecil, Charles, Frederick, Garrett, Howard, Montgomery, Prince George's and Washington Counties as well as in Baltimore City where 239 cases positive to rabies were diagnosed in dogs. Following the use of vaccination programs in Montgomery and Prince George's Counties the incidence of the disease markedly decreased in these localities, and through the use of quarantine procedures also came under control in the other counties and Baltimore City, so that only seventy cases were found in the whole state during the year 1945. The vaccination of dogs was conducted in Montgomery County in 1945 and in Prince George's County in 1945 and 1946. The greatest number of cases in the current year have been found in Baltimore County and Baltimore City. Election districts number 9, 1, and 13 in Baltimore County were selected for vaccination programs. Despite the fact that fifteen rabid dogs had been found in these districts until May, 1946, after vaccination only two cases have been discovered. Increased efforts in the enforcement of the quarantine restrictions apparently have controlled the outbreak since no cases have been found during the last several months. To date only thirty-seven cases have been found in the entire state.

The procedures used in Maryland for the control and eradication of rabies have pointed the way for the outline of a national program. It has been pointed out in publications on our experiences that vaccination should be used as an adjunct to quarantine restrictions and the removal of unowned and unwanted dogs. During the entire time of the rabies outbreak, that is from 1943 until this year, despite the fact that numerous persons were bitten and exposed to rabid animals, only one human death occurred from this disease. This death perhaps could have been prevented had it been possible for the county health officer or the Live Stock Sanitary Service to have known about the disease in the dog. The animal in question was removed from the state for treatment and the condition of the animal was not reported until the exposed person had died of the disease. Close cooperation has always been had with county health officers so that every human bitten or exposed could be properly advised about immunization.

Anaplasmosis

This protozoan disease of cattle, prevalent for many years in the southwest, has been introduced into Maryland and some of the other eastern states within the last fifteen years. The disease has been diagnosed in individual animals and also in herd outbreaks. The death rate from the natural disease may run as high as 50 to 70 percent although in most instances it is not this high. In one outbreak within the last several years in a large herd, about eighty individuals were affected during the summer and fall of which fourteen died despite treatment. Almost everything in the way of drugs has been used in the past without success, although arsenic preparations have proved the most beneficial.

However, there is one peculiarity of this disease which makes it particularly dangerous, that is animals which recover continue to be carriers for years or for the remainder of their lives. Under these conditions the saving of the life of the animal means that the disease is maintained in the herd in that same individual.

In the outbreak referred to an organic compound, chlorarsen, was tried and appeared to be successful in assisting the recovery of the affected individuals. However, a test set up at College Park using mature cows and calves from which the spleens had been removed as tested animals, proved that blood from the recovered animals still contained the causative organism. In extensive trials at the farm with a variety of drugs for treatment of the carrier stage, only two gave indications of being satisfactory. In these two instances blood from the treated animals injected into splenectomized calves failed to cause these animals to develop the disease. Unfortunately it had not been possible to prove by previous tests that the cows at the farm were carriers before

treatment was begun. In consequence a more extensive trial is being run at the present time using twenty cows for studies to demonstrate the carrier stage. These individuals will then be treated with the drugs mentioned above and their blood tested again after treatment is completed. Should these tests prove conclusive they will be the first worthwhile demonstrations of the destruction of the carrier stage.

Hog Cholera

The provisions for the control of this disease in Maryland have continued on the same basis as previously, that is two field veterinarians assigned by the United States Bureau of Animal Industry for work in the state, one working in Hagerstown and the central counties and the other at Salisbury to handle the Eastern Shore. Where it seemed logical to do so the procedure on the basis of the use of serum only and sanitation is used. In garbage feeding plants and in pure bred herds or breeding stock where shipment to other states necessitates an immunization, the use of the serum-simultaneous treatment is being advocated particularly in sections of the state where the disease is almost constantly present. The efficacy of the vaccines on the market has still not been satisfactorily proven and the use of these products is not being advocated.

Breeding Diseases and Sterility

These conditions have for many years imposed upon the breeders of cattle and horses a tremendous loss. It has been impossible with the staff available to conduct investigations into the cause of breeding diseases and to do some work on sterility. This work, of necessity, is conducted in cooperation with local practicing veterinarians who in the end are the ones who must be called upon by the herd owner for actual work and assistance. Since a great many of these conditions may be due to deficiencies and hormone imbalances, the acquisition of a veterinarian with a knowledge of these conditions and extensive experience in chemistry is much to be desired. A search is being made at the present time for such an individual.

Importations and Exportations of Cattle

For many years there has been a balance between the number of animals shipped out of the state and the number shipped in. On the basis of total figures for the current period, this would also apply. However, when the subject is broken down into beef cattle and dairy cattle, it is found that 2,229 beef animals were shipped out of the state and 1,293 were shipped in. These figures of necessity refer to breeding animals and not to those for feeding. In this latter category we may include the shipment of 15,015 steers and feeders.

In the case of dairy cattle, 3,952 were shipped out and 4,585 were imported. The large number imported has been due to the fact that there has been a desire on the part of the dairy associations furnishing milk to the Baltimore and Washington areas to produce the milk locally rather than to have it shipped from outside of the area. Basically, of course, the income from milk products has been the greatest influence in the desire of dairymen for more cows in their barns. Even during the time when the feed was short and it appeared that it might be exceedingly difficult to secure sufficient feed for the winter, the desire for more cattle still continued.

Laboratories

Provisions have been made at Hagerstown and at Frederick for the establishment of branch laboratories. These will augment the branch laboratories at Salisbury, Centreville, and Baltimore and will further relieve the main laboratory at College Park for research studies and more complicated diagnostic procedures. It is evident as laboratories are established in the localities, the bulk of the work done there will depend upon the live stock industry which is most prevalent. For instance, the laboratory at Salisbury, in the center of the broiler industry conducts extensive investigations of poultry diseases. There is doubt that there is any laboratory in the United States which has a staff more conversant with diseases found in broiler houses than is the case at Salisbury. There is need, however, in that locality for a building set aside solely for those studies to be equipped for the continuation of the excellent diagnostic work and the extensive research in the diseases found in broiler houses.

In order to increase the facilities available to Baltimore and Harford Counties, it is felt that the laboratory should be moved from Lombard Street in Baltimore to Towson. Efforts are being made at this time to secure such an arrangement. This would permit the extensive examination of milk samples in the diagnosis of mastitis and in agglutination tests for Bang's disease and pullorum disease.

Research

Despite the fact that the staff was very much depleted during the war, it was still possible to conduct some research studies. The anaplasmosis work recently referred to is an example. There were also conducted studies on fowl cholera, fowl typhoid, and blackhead in turkeys. Certain of the sulfa drugs have been used with great promise in the first two of these conditions. At the present moment a number of drugs are being used in the treatment of blackhead which is an ever present menace to the turkey grower.

Within the last several years a new disease hazard to the poultry industry has been introduced into the eastern states including the Eastern Shore of Maryland. This is a virus disease known under the term of "Newcastle Disease." The study of viruses is much more complicated than that of bacteria. It has been possible to secure within recent months trained personnel to carry out diagnostic procedures and research work on this and other virus diseases. Immediate additions of equipment and supplies have permitted this work to be started within several months even though it is extremely complicated. A survey is under way to establish the parts of the state where Newcastle disease is present. To date it has been found only on the lower Eastern Shore.

The war did not entirely disrupt our investigations of calfhood vaccination in bovine brucellosis, but efforts were hampered to some extent because no veterinarian was available to consistently work on the project. It has been shown further that approximately 5 percent of heifers vaccinated between six and eight months of age still continue to react at the time they reach two years of age. This gives us one practical point to use in talking to owners about whether or not they should begin calfhood vaccination. Under some circumstances the continued positive reaction makes little difference, but in accredited herds it causes some little concern and some financial loss to require these vaccinated reactors to be removed in order to continue the accreditation. Studies are being made as to the danger from these particular vaccinated individuals. Tests have been conducted with dried vaccine and equipment has been secured for the drying of vaccine under varying conditions. A number of herds have also been taken on for the study of the effects of mature vaccination.

The acquisition of a veterinarian versed in mastitis control makes it possible to pick up studies on this subject dropped several years ago. It is a well known fact to all workers in this disease that sanitation on the farm plays the greatest part in the control and eradication of this disease. If there were some drug or some treatment found which would cure all of the affected animals, the sanitation might not be so important. As long as drugs do not clear up all of the infection, it is still necessary to prevent the spread from these infected individuals to clean animals. Therefore, sanitary barn practices will be stressed in all studies and drug treatments used as an adjunct rather than the main part of mastitis control.

Teaching

Teaching has been continued in the College of Agriculture. Courses are given in avaian anatomy, poultry hygiene, in comparative anatomy and physiology, and in animal hygiene. These courses are intended for agricultural students and are required of those individuals specializing in poultry husbandry, dairy husbandry,

and animal husbandry. Students from other colleges frequently avail themselves of the opportunity of taking these courses.

In the animal field on very frequent occasions, the students have an opportunity to see sick animals in the herd and see the veterinarian treat these individuals. It is by no means the intention of the department to teach agricultural students to be veterinarians, but it is felt advisable that they know the fundamental principles upon which diagnosis and treatment are made. When they return to the farm they have a better conception of disease control and make good cooperators with their local practicing veterinarians and the state control officials.

Sales, Field Days, and Shows

Breeders and the sales organizations in Maryland have always appreciated the activities of the Live Stock Sanitary Service in furnishing interstate shipment facilities for them. At all sales which have an appeal outside of the state a representative of the Live Stock Sanitary Service is present to prepare the proper papers so that animals can be moved at once. The service has also each year outlined health regulations for the field days and fairs. In past years adherence to the requirements was by no means the rule. An effort was made during the last season to secure more active cooperation of the show people with the department in this regard. It has been worked out with the State Fair Board that certifications from a representative of the Live Stock Sanitary Service that the health requirements have been met, is necessary before payments will be made to exhibitors. Only one instance occurred during this past season where there was some question. This group of breeders will meet during the winter and the entire matter will be explained to them. There is no reason to believe that strict adherence during the next year will not be secured.

It will be seen from the above that the work of the Live Stock Sanitary Service is a combination of regulatory work, and animal and poultry disease control by definite programs, diagnostic work, research studies, and contacts and consultations with breeders, owners, and practicing veterinarians.

No one individual is set apart to make public contacts through meetings or visits. Of necessity this condition must exist where there are so many fields in which an individual can specialize and no one person is fitted to take care of all. Therefore, when meetings are to be attended the veterinarian best qualified to talk on the subject for presentation is sent.

The increased growth and the activities of the service are the result of the earnestness of the staff and the confidence and willingness of the people to confer on matters of disease and related subjects.

CHART I

Nineteen-Year Record of Pullorum Disease Blood Testing Under the Supervision of the Maryland Live Stock Sanitary Service

Year	Number Flocks	Number Tests	Per Cent Positive
1927-28	3	3,725	21.0
1928-29	16	5,805	19.0
1929-30	16	6,032	10.0
1930-31	38	12,433	17.1
1931-32	79	29,432	13.0
1932-33	369	81,275	18.2
1933-34	326	89,991	9.2
1934-35	209	59,833	6.1
1935-36	468	100,996	8.8
1936-37	655	207,991	8.0
1937-38	855	251,052	8.7
1938-39	942	308,681	7.2
1939-40	1,453	455,647	6.1
1940-41	1,332	431,503	3.0
1941-42	1,619	596,036	3.1
1942-43	1,763	656,738	3.0
1943-44	2,304	942,695	2.8
1944-45	1,899	832,237	1.6
1945-46	2,013	837,473	1.5

College of Arts and Sciences

J. F. PYLE, *Acting Dean*

THIS biennial report covers an eventful period in the history of the College of Arts and Sciences. During this time we have experienced the ending of World War II and the beginning of a period of reconstruction and development.

Registration in the College reached its lowest point in 1944, viz., 980 students. During the spring semester of 1946 the registration increased to 1364 students—for the fall semester of 1946 registrations reached the unprecedented figure of 2177. The faculty of the College was called upon to teach in addition 13,089 students who were registered in other colleges of the University (in many instances the same student was taking more than one course in the college which accounts for this large number). This influx of students, both graduate and undergraduate, presented us with a three-fold problem, viz., the immediate need for more personnel, equipment, and classroom and office space. These demands are increasing and will be more pressing during the next biennium than they were during the one just ended.

The increase in the number of students registered in the College does not reflect adequately the problems arising from increased registration. The large number of students registered in other colleges of the University, viz., in the College of Engineering and Business and Public Administration increases the load of the Arts and Sciences faculty enormously. This College furnishes the major portion of the work for freshmen and sophomores in the Colleges of Engineering, Business and Public Administration, Home Economics, Education, Agriculture, Military Science, Physical Education, and Recreation, and the Graduate School. The English Department for example is teaching 3303 students who are registered in other colleges; the Mathematics Department is teaching 3,620 non-Arts and Sciences students—during the fall semester of 1946.

The Heads of the various departments and their staffs worked conscientiously and strenuously in an effort to meet the problems presented by the changed situation. Many courses which have formerly been regarded as electives were temporarily removed from the schedule in order to provide more teachers for the strictly required courses. The offering of graduate work had to be curtailed materially—many new members had to be added to the faculty—the teaching day was extended from 8:00 o'clock to 5:50 in the afternoon six days a week—the number of students in a class had to be increased far beyond what is commonly regarded as a satisfactory size class. By making these concessions to expediency the College was able to carry on and we hope accomplished acceptable results. We

trust, however, that the staff can be increased, and that more classroom and office space will be made available in the near future so that we can provide the quality of teaching, counseling, and directing that will make every student proud of the fact that he has secured his education at the University of Maryland.

The following is a summarized statement of the status and accomplishments of the departments affected most by the controlling circumstances of the period:

Bacteriology

During the biennium Dr. Oscar N. Allen resigned as Head of the Department to accept a position at the University of Wisconsin. Dr. J. E. Faber who had only recently returned to the University, after an extended service with the Military was made Acting Head of the Department.

Three papers were presented at the May, 1946, meeting of the Society of American Bacteriologists at Detroit. These papers were given by Miss Evelyn Oginsky, Mr. R. N. Doetsch, and Mr. Charles Winter. In June, 1946, Miss Oginsky received her Ph.D. and Miss Delia Velilla received her M.S. from this department.

Important research is being carried on by Mr. John L. Nemes, Mr. R. N. Doetsch, and Mr. Nolte, who expects to receive his Ph.D. by the end of this year. The Department now has 15 graduate students. Incoming graduate students will begin their research problems in February, 1947.

Since 1945 the Department has been in close contact with the State Department of Health, through Dr. C. A. Perry; National Institute of Health, through Dr. Roy Snyder and others; The Army Medical Center, through Dr. Smadel, Major Carlquist, and Major John Wester; Food and Drug Administration, through Dr. Thomas Barstrom and Dr. Glenn Slocum; and the Bureau of Insecticides, through Dr. L. S. Stuart. There is a working agreement with the Fish and Wild Life Service (a Federal Government Agency) which is proving very satisfactory; and we have such an association with the Livestock Sanitary Service on research dealing with Animal Diseases.

Dr. Norman C. Laffer joined the staff in February, 1946; Dr. Michael J. Pelczar September, 1946; R. N. Doetsch was appointed instructor in September, 1946. We have been fortunate to obtain four excellent graduate assistants.

Under the direction of Dr. Allen, the Department purchased new equipment necessary for teaching and research, new floors were laid, the entire department was repainted, and new lights were installed. The Department hopes to continue to make such improvements as are necessary to meet the demands for teaching and research.

Chemistry

The Chemistry Department has felt the impact of the increased registration to a very great extent and has met the problems in a highly commendable manner. Various members of the Department contributed their efforts in great measure to war activities.

A great deal of time and effort has been devoted to the planning of a new chemistry building. The plans drawn by the architects embodying the essentials requested by the department have been studied; revisions have been made as a result of these studies. We now have excellent floor plans for the building.

An unprecedented enrollment in chemistry courses has occurred. Only very few students, if any, who desired to register in this course were unable to do so. We are operating in freshman courses beyond reasonable capacity and are seeking ways and means of acquiring temporary laboratory space for next year. Without such additional space, we shall be unable to cope with the numbers of students who will register for sophomore work in the Fall.

Additional staff members have been acquired in the departments of inorganic, physical, and analytical chemistry. These additions have resulted in course offerings which could not be made heretofore. Additional personnel in the departments of bio-chemistry, physical chemistry, and inorganic chemistry is being requested to make it possible to serve adequately the very large numbers of graduate students which are the inevitable consequence of the huge enrollment in general chemistry courses.

The last of our O.S.R.D. contracts was concluded on June 30, 1946. Work accomplished under various contracts during the current biennium comprises research on DDT and insect repellents, and extensive research and large scale laboratory preparation of numerous antimalarial drugs. SN-13,276, a new antimalarial first prepared in our laboratories, has shown great promise as a cure for vivax malaria. During the current biennium, O.S.R.D. contracts in the amount of $81,282.00 were held by the University and their subject work carried out in the chemistry department. Our contract with the Committee on Medical Research expired on June 30, 1946, six months after the majority of such contracts were concluded.

Research on potential antimalarials is being continued on a reduced scale. A "Grant-in-Aid" from the Public Health Service for 1946-47 in the amount of $17,000 has made this continuation possible.

During the past summer work was done by certain graduate students for the U. S. Quartermaster's Corps. As a sequel to this service a contract for 1946-47 in the amount of $15,000 has been arranged. The employment of a number of graduate students as

part of their training in organic preparations will thus be made possible.

A post-doctoral fellow, supported by a contract with the Navy's Bureau of Aeronautics, is studying corrosion inhibitors. The Navy has indicated its probable desire to continue the work beyond the present contract.

A Du-Pont pre-doctoral fellowship has been made available to the department.

The research Corporation of America has made $2,500 available to Dr. E. F. Pratt to support pre-doctoral research.

Nineteen articles by members of the staff have been published in scientific journals or are in press.

English

The most important changes in the Department of English during the biennium July 1, 1945, to July 1, 1947, are connected with the creation of a program in American Civilization for the University. This program has meant that the Department teaches proportionately more students at the sophomore level than before and that it is attempting to coordinate the work of the first two years with work that is done in cooperating departments in order to give the students a common body of humane knowledge and an elementary acquaintance with American civilization.

To add strength to the staff and to add that strength at a low cost, the English Department expects to make use of one to three lecturers each semester who will offer seminars for our large number to graduate students. This does not mean that the department is not in great need of top men on the regular staff; visiting lecturers cannot as a rule assume the direction of theses nor can they assist in other long-range projects.

In order to meet the demand for instruction at the lower levels, the department has cancelled several of its advanced offerings, and did not appoint two needed full professors, funds for whom were used to hire instructors for freshmen and sophomores. Including eighteen graduate assistants and several part-time instructors, the English staff now numbers fifty-five persons. It occupies offices in the Arts and Sciences building and in the gymnasium, an arrangement which is in many ways unsatisfactory as a permanent thing. The teaching load for instructors in freshmen and sophomore English has been increased approximately 32 percent over 1945-46, an unfortunate increase when one considers the amount of composition work which should be a part of those courses. The load in advanced classes has increased, but the real increase at advanced levels will not come until 1948.

Foreign Languages:

During the biennium courses in Russian and Hebrew were added to the curriculum. Dr. Zucker, Head of the Department, spent the year 1945-46 in Europe aiding in the revising of German textbooks. Dr. Falls was granted leave for the summer and fall of 1946 to study in France, and to collect material for a book he is writing. Dr. Prahl was Acting Head of the Department during the absence of Dr. Zucker. As in other departments, this one has been faced with the problem of increased registration and lack of adequate personnel. The situation we believe has been met in a satisfactory manner.

History:

The demands of the new curriculum in American Civilization placed an increased burden upon the History Department. This was met by adding several new members to the staff so that we now have a greatly enlarged department, and a competent group of historians. Dr. Gewehr was granted a leave from the University during the year 45-46 to Head the Department of History in the government university at Shrivenham. He returned to active duty at the University in the Fall of 1946. Dr. Gewehr did an excellent job in recruiting, on rather short notice, the new members for the History staff. Among the new staff members added to History was Dr. Wellborn, author of an excellent textbook on American History.

Mathematics:

The Department of Mathematics is another one of the departments that has been especially affected by the increase in registration, consequently it was necessary to add a large number of people to the staff. The report on the activities of the Department are summarized under two headings, research and teaching.

Research:

The accomplishments and plans for research over the period of July 1, 1945, to July 1, 1946, are listed below in the form of published papers and contemplated research:

Dr. Martin: 1. "The rectilinear motion of a gas II", American Journal of Mathematics for July, 1945.—"A problem in the propagation of Shock", Quarterly Journal of Applied Mathematics, to appear shortly.—Contemplated research involves the mathematical theory of subsonic and supersonic flow of compressible fluid.

Dr. Lewis: 2. "Chromatic polynomials". This paper deals with the famed four color problem, and it will appear in the November issue of the Transactions of the American Mathematical

Society.—"Polynomial Approximations", submitted to the American Journal of Mathematics.—Further investigations in dynamics, the four color problem, and the theory of elasticity are contemplated.

Dr. Hall: "On the cores of Certain Classes of Spaces" (with J. W. T. Youngs) to appear in Annals of Mathematics.—Publication of a note on an Algarithm for solution of linear differential equations with application to linear dynamical systems with two degrees of freedom is contemplated. Research on topological questions.

Dr. Jackson: "The Four Vertex Theorem for Surfaces of Constant Curvature",—American Journal of Mathematics 1945.—Contemplated research involves the extension of the results of his paper on Vertices of Plane Curves to simply connected regions on Surfaces of Constant Curvature.

Dr. Good: Contemplated publications in the field of Algebra include "On the Theory of Clusters" and "Free Associative Clusters".

Dr. Ringenberg: A paper in analysis "Extensions of Interval Functions" was accepted in August for publication in Transactions of the American Mathematical Society.

In addition to the individual research projects initiated by separate staff members, the department has been approached by two government research bureaus with a view to cooperative research in several fields of applied mathematics. Both projects involve considerable computation and the services of a number of computers.

Teaching:

At present there are more than 4600 students enrolled in our courses in mathematics and the teaching load is 374 hours per week, of which 12 hours is being taught at the Naval Research Laboratory, the Naval Ordnance Laboratory, and the Taylor Model Basin, by lecturers selected from their staffs. The enrollment in advanced courses in Mathematics numbers 238, of which seven are undergraduate majors and 36 graduate majors in Mathematics. This semester six young men on the instructional staff of the Naval Academy have begun work with us for their doctorate in Mathematics.

A good start in our graduate and research work has been made, and we believe the future holds great promise.

Physics:

The Department of Physics has been considerably expanded and preparations are being made for still greater expansion and development when new facilities become available.

The total number of students taking graduate work in physics has increased from 15 (pre-war) to 107.

Dr. Cooper is developing experiments for a laboratory course in modern physics. This course will be given as soon as space is available. The undergraduate program is a drain on the departmental budget, but it takes care of the heavy enrollment without lowering scholastic standards, and maintains the undergraduate work in physics comparable to that in any university in the country.

The total number of students now taking undergraduate physics is 420. Next September there will be 1500.

The enrollment for graduate students working for higher degrees has increased to 42.

Graduate courses have been arranged to form a coordinated program. A number of advanced specialized courses are to be added.

There are now eight men on the staff engaged in teaching and directing research—4 full-time and 4 part-time professors.

A cooperative program for graduate instruction has been arranged with four large government laboratories and facilities are now being interchanged.

Research:

Prof. Brichwedde: published a paper in connection with the University of Maryland "On the Teaching of Thermodynamics in the Department of Physics"—Journal of Chemical Education, January, 1945.

Mr. Gautier: Under the direction of Dr. Brickwedde has built a high temperature calorimeter. A research project on the measurement of specific heats at high temperature will soon be completed. The results will be published.

The study of chemically deposited silver mirrors toward which the Hobbs Glass, Ltd., of Canada contributed $3500 is about completed. The results will be published.

Professor Cooper (who came to the department in September, 1946) has two research projects:

1. Observations on cosmic ray intensity. Apparatus for this project accumulated through various research foundations is now being shipped to the department, and will be assembled on top of one of the buildings.

2. Observations on the scattering of mesotrons. Apparatus for this project is now being assembled.

Mr. Liebson of the Naval Research Laboratory is doing theoretical and experimental research on Geiger Counters under the guidance of Professor Myers.

Professor Iskraut (who came to the Department in September, 1946) is doing research work in the field of relativistic quantum theories of elementary particles. He is also contemplating an investigation of a five-dimensional relativistic theory of elementary particles.

Psychology:

By far the most important change in this department during the biennium was its return to normal operating status, following the end of the war. The academic year 1946-47 finds the department operating with five well-trained veterans on its staff, all of whom had had broad experience in field work while serving as officers in the Navy. The graduate group has also returned to normal and now comprises more than a dozen doctoral candidates, representing more than a dozen different universities in terms of their baccalaureate degree.

The Army Air Forces has awarded a research contract to the Department involving $15,000 in research funds and about the same amount in equipment loaned by the AAF. The project, which has to do with research on warning devices for aircraft, will be housed in a specially equipped quonset hut, containing a link trainer and several thousand dollars' worth of other research equipment.

Under a contract with the Veterans Administration, the Department maintains a counseling service for veterans. This is a self-sustaining feature, since the University is reimbursed at the rate of $20 per case for each veteran counseled. At the present time Assistant Professor D. D. Smith is operating with a staff of three appraisers, one psychometrist, and one part-time typist. During the academic year 1945-46, approximately 350 cases were handled by this unit.

The department maintains a counseling service for vocational and educational advisement. Students pay an annual fee of one dollar each, and the full services of the Counseling Bureau are available to them without extra charge. This is again a self-sustaining feature. It operates under the personal supervision of Dr. D. D. Smith, and it handles all cases referred by the faculty or self-referred from within the student body. While no fixed policy has yet been set up, it also handles cases sent in by schools and communities within the state.

In addition to the routine vocational and educational counseling, the staff is called on to do much counseling in regard to personal-adjustment problems. Some of these are self-referred. Others are

sent in by other departments or by Deans, including the Dean of Women. Where therapy lies within the proper province of the department it is handled locally. Severe disorders are referred to recognized psychiatrists, with provision for follow-up. The staff has also set up special instruction in improvement of study methods at the specific request of other departments and colleges.

At the request of the Director of Admissions, the staff of the Testing Clinic has administered standard tests to approximately 1000 students during the past six months, leading to the disqualification of about half this number. During September, approximately 2000 students were given standardized objective tests as part of the regular testing program. Scores on these tests are contained in a report which is placed in the hands of authorized faculty representatives throughout the University.

In January, 1946, the University of Maryland served as host for a national conference on Military Psychology. This was attended by more than 100 psychologists from the Army and the Navy, as well as from various university centers. The meeting centered about a series of invited papers, dealing with researches completed or in process at various centers in the Armed Forces. The proceedings of this conference will soon be published by the University of Maryland, and it is is assumed that payment for the volume by subscribers will liquidate the cost of publication. An evening address, delivered by Dr. Jenkins was later published in full as the lead article in *Science*.

Five members of the staff and a number of graduate students attended the annual meeting of the American Psychological Association at Philadelphia in September. Dr. Jenkins was elected national president of the Industrial Division of this Association. He was elected to a similar position in the Military Division. The Department was well represented at meetings of the Eastern Branch of the A.P.A. and at the meetings of the Southern Society for Psychology and Philosophy. He has been invited to join the summer school faculty of Columbia University for the summer session of 1947.

In a department of this nature it is utterly essential that broad consulting contact should be maintained with industrial and governmental agencies which are meeting problems in personnel selection, in training, in social interrogation, in normal clinical operations, in advertising and market research. Only through such contacts can the department insure the validity of its classroom instruction. It is gratifying to report that the department receives many calls for consultative services.

Dr. Smith has been appointed State Examiner for the Nurses' League of America. Dr. Hackman is local representative on the national research service of the Psychological Corporation. Dr. Jenkins has

received civil service appointments as expert consultant to the Army and to the Navy. Consultant services of various members of the staff have been used by such varied organizations as the Veterans Administration, Graduate School of the U. S. Department of Agriculture, the Locke Insulator Corporation, and the Post Office Department.

A number of technical articles have been published in professional journals during the last biennium; and additional articles are in press. Other articles, representing researches completed during the war years, are in preparation. At least two members of the staff are under contract to produce textbooks in the fairly near future. The level of publication for the staff is as high as would be consistent with conservative policies regarding care in preparation. The department is represented on the editorial boards of four professional journals.

Sociology:

This department at present has a staff of ten, approximately two thousand students and seventy majors, and is the largest in the history of the University. Students are showing an increasing interest in the field of sociology both on the undergraduate and graduate levels.

The focal points of interest in the departmental work, some of which are already strongly developed, and others which are just emerging are as follows:

The Sociology 1 course in the American Civilization curriculum—having observed the social science offerings of various universities over a period of years we are convinced that the Maryland plan is definitely out in the lead. In view of this, it has been difficult to find a text which fully fits our needs. It is the hope of our staff to develop such a text within the next several years. The development of this course is, in my estimation, one of the outstanding opportunities and challenges to the department and will, we are sure, attract national interest and have national influence in the field of sociology.

The preprofessional social service curriculum—This curriculum is already established and there is considerable student demand. This curriculum can be further strengthened by building up the staff with those experienced in this field.

The preprofessional crime control curriculum—This is likewise well established and has considerable demand.

Rural sociology and rural social research—This general field has, in the history of the department, and in conjunction with the School of Agriculture, been of considerable importance in the past, but has been allowed to lapse somewhat during the past few years due to lack of personnel. It is the hope that this field may be developed both from the standpoint of teaching and research.

In view of the increased size of staff, the graduate offerings can be greatly strengthened. In general, the recommendation in this connection is that each staff member should develop, in keeping with the focal points of emphasis in the department as a whole, a specialized graduate offering which he can present more or less exhaustively and authoritatively. In this way his specialized professional interests will be advanced and the graduate students will profit by the better and more intensive presentation which will result.

Speech:

In March, 1944, the department took over the direction of all curricular and extra-curricular dramatic work. The department is completely in charge of all dramatic programs produced on the campus and this year, as an example, four plays will be given. To meet the staging and direction problems, members of the staff have been added who are qualified to do this work. The production of plays is considered as part of the teaching load and instructors engaged in this activity do not teach a full load. In addition, the curriculum within the department has been expanded to include courses in drama, and it is now possible for a student to major in Speech with emphasis in dramatic work.

The above-mentioned situation in drama is also true in radio, and the department has expanded in this direction to the extent that a student may major in Speech with emphasis in radio work. At the moment a full-time radio man has not been appointed, but it is hoped that in the next biennium a full-time staff member will be announced to assist in the classroom work in radio, as well as supervise the proposed educational broadcasts to originate on this campus, and be aired over a Baltimore station yet to be named. In considering our postwar radio activities, we cannot overlook the possibilities of frequency modulation and television. From a modest start, within the next year or two, we hope we can utilize these two great potentials.

During the past two years, Dr. Pagel established a full time clinic to take care of minor speech defects among our college students, and she also laid the groundwork for a county-wide system of speech correction in the public schools. Both of these activities were progressing very favorably, and at the moment we are handicapped by her recent resignation. It is hoped that we will be able to reestablish these two activities with the appointment of a new Speech Correctionist. We might add that as the county work becomes established, it is hoped that we can expand this work to eventually include a state-wide system of speech correction on the elementary and secondary school level.

In addition to the offering of new courses in our curriculum, we have also revised many of the standard courses to meet changing needs. When the American Civilization program was instituted, a

revision was necessary in our freshman speech course, and speech courses were set up to handle the students in Engineering, Home Economics, and Business and Public Administration. In order to do an effective job of teaching, the department revised its teaching technique, and with the publication of a speech notebook this fall by Prentice-Hall, we have been able to adjust our teaching program to meet the specific demands of our student body.

New equipment has been added in the past two years to facilitate our speech program in the teaching of public speaking radio and dramatic courses. Much new equipment is still needed, but it is hoped that with the establishment of the speech fee that the department will be able to handle this load without calling upon the Administration for additional funds.

The department is keeping pace with the general growth of the university, and we believe we have now established a strong undergraduate division of work. At the moment we have 26 students who are majoring in speech and about an equal number minoring. With the increase in the number of speech majors there has come about a demand for graduate work.

Zoology:

During the biennium the following advances were made or planned by the Department of Zoology.

Fisheries Biology will in the future be emphasized by the department. A curriculum in this subject has been inserted in the catalogue. The following courses are being added to enlarge this curriculum:

Fisheries Biology

Fisheries Management

Ichthyology

Research in Fisheries Biology

The above courses will be taught by members of the Fish and Wildlife Service, and these men will be authorities in their respective fields. Other courses in the curriculum will be taught by other members of the department. Degrees offered in this field are B.S., M.S., and Ph.D.

Aviation Physiology will be offered as a separate course and will be given by a recognized authority in this field from the Navy Department. This lecturer has already been obtained. Research in this subject is being carried on in the department, and there is increased demand for course work on the part of both graduate, and undergraduate students.

Parasitology as a course will be offered by a federal employee who is an authority in this field. Negotiations are practically completed for this arrangement.

The general teaching load of the department has been more than doubled over pre-war loads.

Aviation Physiology is being emphasized by the department. A grant of $13,000 a year, for three years, has been made for this work by the Navy Department:

Subject—Respiration

Personnel—Five additional department members

Fisheries biology, through a cooperative program with the Fish and Wildlife Service will be in the future emphasized. Negotiations are under way with the above service and will probably be completed within a few weeks. Our share of the work will be supervised by R. A. Littleford. The subject of this research will be, "Investigations in Food Sources of Commercially Important Fishes in the Chesapeake Bay."

Other research projects in progress during the biennium were:

Blood groups—S. O. Burhoe

Ageing in Mammals—R. A. Littleford

Water Balance in Amphibia—N. E. Phillips, R. A. Littleford

Histological Studies—H. J. Werner

Physical Facilities: Permanent equipment for teaching and research have been added. Space is badly needed. Until more space is added the Department can plan no further expansion in research and teaching, and can carry out only with difficulty its present progrm.

College of Business and Public Administration

J. F. PYLE, *Dean*

THE Biennium 1944-46 was the period during which we saw the ending of a successful war and the beginning of the period of reconversion and development for the world, for the nation, and for the University. The results of these changes developed rather formidable problems for the College of Business and Public Administration as well as for other divisions in the University.

The registration in the College for the fall of 1944 was 158. In addition, 218 students from other colleges on the campus were taught by the faculty of the college. In the fall of 1945 the registration in the college was 266 with 338 students from other colleges on the campus being taught by the faculty of the college. In the fall of 1946, the registration was 1329, including 37 graduate students. In addition 2201 students from other colleges on the campus were being taught by the faculty in the college. This tremendous increase in registration, due of course to the large influx of ex-servicemen, presented problems with reference to securing an increased number of teaching personnel and in finding adequate space for classes and offices. The University met the space problem largely by extending the instruction day from 8 o'clock in the morning to 6 o'clock in the evening and by going on a six-day week. The teaching personnel problem was met by increasing the size of classes greatly and by adding several new instructors. The anticipated increase in registration during the next biennium will present even greater problem in the way of providing adequate teaching personnel, sufficient space, and equipment. The College of Business and Public Administration is now the third largest college, on the basis of student registration, in the University.

The results secured so far, while not entirely satisfactory, are probably better than might have been expected in view of the sudden and unprecedented increase in registration. The largest registration in the college prior to the war was 417 students. A three-fold increase in registration was more than could be satisfactorily accommodated under the limited facilities available. It is absolutely essential, especially in view of the anticipated future increase, that the College of Business and Public Administration be furnished much larger physical facilities and teaching personnel.

The College of Business and Public Administration had been preparing for some time for the task of reconversion and development. A number of fundamental changes were made in the organization of the college during the early part of the biennium. The Department of Political Science was reorganized and greatly expanded. The

personnel was increased from three men to nine. The name was changed to the Department of Government and Politics and it was transferred from the College of Arts and Science to the College of Business and Public Administration. This was done in order to coordinate more effectively the teaching and research in the field of Government and Politics with the work in Business and Public Administration.

The Department of Geography was moved into new quarters; a number of additional staff members and research assistants were added so as to be able to take care of the more than 700 freshmen who take the work in Economic Resources, and to continue research work in connection with the atlases being prepared by the Department.

Economics was set up as a separate department in the college with Dr. C. J. Ratzlaff as Acting Head.

Secretarial Science was set up as a Department in the college with Mr. A. S. Patrick as Head.

The Bureau of Business and Economic Research was established under the direction of Dr. John Cover. This division is doing an outstanding piece of work considering the limitations under which it has to operate. It has been carrying on an intensive economic analysis of Allegany County, including the City of Cumberland. The report of this study will be ready for publication the first part of 1947.

The Department of Government and Politics under the leadership of Dr. Joseph Ray, has completed a survey of the City Government of Hagerstown. This report was printed and distributed during the summer of 1946. Other projects are under consideration or in the process of being formulated by the Department.

Institution and research in the field of transportation was given increased emphasis by bringing Dr. John Frederick to the faculty of the University from the University of Texas. The purpose in bringing him to Maryland was to develop the field of Air Transportation, which has become of great importance in recent years. Dr. Frederick is perhaps the outstanding authority in the academic field in air transportation problems and airport management.

The college is preparing to place greater emphasis on problems in the field of Labor Relations and Industrial Management. Professor E. W. Mounce prepared during the biennium a book, title, "Labor Course," published by Prentice-Hall, which has had gratifying acceptance. This material deals largely with the legal aspects of labor relations. Professor W. J. McLarney was brought to the University to develop courses in the field of Industrial Management and

Personnel Relations. Mr. McLarney has considerable training and experience in the field of Industrial Management and labor relations.

Other divisions in the college, Accounting, Finance, and Marketing, are being carried on in a satisfactory manner. We were particularly fortunate in Accounting in having Col. Wedeberg and Commander Cissel return to the faculty. Each is an outstanding man in the field. We were able to secure the services of Mr. Howard Wright, C.P.A., a promising young man with considerable experience in the field, upon his release from the Army.

The following statements give in more detail some of the plans and accomplishments of the new departments in the college:

1. Bureau of Business and Economic Research.

Currently the Bureau is driving toward completion of an analysis of Allegany County. A report will be available by the end of 1946. This survey, undertaken at the request of leading citizens of the County and with the sponsorship of the Governor of Maryland and the President of the University of Maryland, is a comprehensive study of the economic and business life of the area, including analyses of business conditions and presenting barometers of changes in economic and business welfare; employment, payrolls, unemployment and unemployment compensation; the nature of the working force and its draft from the neighboring states of Pennsylvania and West Virginia; the trade area centered in Cumberland; financial and banking facilities and conditions; building and construction development and housing characteristics; the position of fuel and public utilities; agricultural conditions and trends; transportation developments and facilities; problems of water supply, flood control and ameliorization of pollution; suggestions for industrial expansion including manufacturing and agriculture.

Subsequent to the appeal of the citizens of Allegany County for our assistance, we were visited by representatives of Anne Arundel County and Annapolis to request that our next attention be centered upon their home area. This type of analysis is very important to the citizens of Maryland, wherever located and whatever their personal source of income. This type of analysis, therefore, should be applied consecutively throughout the State.

An additional function for which the Bureau should be responsible is the analysis of current business and economic conditions in relation to past experience and apparent tendencies. This should be regarded as the "bread and butter" phase of Bureau analysis and should be regarded as a significant contribution to the welfare of citizens of Maryland.

Individuals, business concerns, public institutions, and state and local governments should find the Bureau helpful in analyzing prob-

lems of public weal and in suggesting sources of information and procedure in the improvement of specific problems.

An essential function of a Bureau is its contribution to the training of the student who is to become the leader in his local community. The daily operations of the Bureau provide indispensable insight into the substantive material and methodology which he will require in order to analyze objectively the problems which face him daily and in order to participate effectively in the promotion of the welfare of his home community and state.

2. Department of Geography.

The Department of Geography has pushed the work on the "Atlas of the World's Agriculture, Forest, and Mineral Resources" during the past year by assigning responsibility to Dr. Van Royen to complete the work, relieving him of much teaching to do so, and by employing a draftsman and two new research assistants, also three graduate assistants half time, to work on this atlas. Dr. Van Royen now has an efficient staff and the work is progressing rapidly. When completed, it will be the outstanding economic atlas of the world.

The China Atlas

Last winter Dr. Huan Yong Hu, Dean of the Graduate School of the National Central University of China, and President of the Geographical Society of China, joined the Geography Department as visiting professor and prepared 36 climatic maps of China based on some 500 records he brought with him from China.

Unfortunately for us, he is being recalled to China, as the National Central University is resuming its activity in Nanking in December. He will there arrange for formal cooperation between the two universities in preparing this China Atlas.

In September, Dr. Shu Tan Lee, Head of the Department of Geography, in the National Central University, arrived and began part-time work on the China Atlas. Because of the large enrollment in the Elementary Geography Course, Econ. 1—700 students—we were compelled to ask Dr. Lee's assistance in teaching several sections in this course. Dr. Lee also teaches, in conjunction with Dr. C. Y. Hu, an advanced course in the geography and natural resources of China.

Dr. C. Y. Hu, in charge of East Asian geographic information in the War Department, is devoting about one-fourth of his time to an advanced course on Chinese geography and to the land utilization map for the "China Atlas." He is under contract to give all his time to the University next year, when Dr. Lee returns to China.

Prof. Shu Ching Lee, of Tsing Hua University, who was with us last year on a graduate assistantship, is continuing his work on the

"China Atlas" this year, with the aid of a $500 Rockefeller Fellowship, and a $500 fellowship provided by us. He has almost completed, under Dr. C. Y. Hu's direction, the generalized land utilization map of China for the "World Atlas" and is ready to start work on the more detailed maps for this Atlas.

Mr. G. C. Hsiao, who came to us from the University of Michigan on Dr. H. Y. Hu's recommendation last February, is working half-time under a graduate assistantship, translating the Reports of the Chinese Geological Survey and similar publications in Chinese and in other ways helping the experts in the Bureau of Mines prepare the Mineral Resources section for the "World Atlas." On completion of this task, he will be ready to prepare the more detailed mineral maps for the "China Atlas."

We have, therefore, five Chinese, three highly trained in geography and familiar with source material, working on this "China Atlas." Our work has been delayed considerably because of a shortage of draftsmen.

We expect Dr. R. E. Crist, a specialist in Latin American resources, to join the staff in February, 1947.

3. Department of Government and Politics.

This Department has undertaken, on a minor basis, a program of service to local governments in the State of Maryland. Accomplished thus far is a printed Report to the Mayor and Council of Hagerstown; pending is a request from the Mayor of Cumberland for a study of that city's government. It is expected that this type of activity will be considerably expanded in the near future.

In coming to the University as a new member of the Department's staff, Dr. Franklin L. Burdette has brought with him the editorial functions of the National Foundation for Education in American Citizenship. This foundation is now, through Dr. Burdette, in some measure affiliated with the University of Maryland.

During the Autumn of 1946, Dr. Ray read a paper and led a discussion on "Municipal Administration for Municipal Clerks and Treasurers" at a meeting held at Dalhousie University, under the sponsorship of the Nova Scotia Department of Municipal Affairs.

Various members of the staff have been active during the biennium in several fields,—research, consulting and appearing on programs of professional and scientific import. In addition to those mentioned above:

Dr. J. Freeman Pyle, Dean of the College, was President of the Washington Chapter of the American Marketing Association; President of the National Conference of Schools of Business and State Universities; Economic Consultant, the Maryland Commission on Post-War Reconstruction and Development; Representative of the American Association of Collegiate Schools of Business in the American Council on Education; Acting Dean of the College of Arts and Sciences.

Dr. R. G. Steinmyer, Department of Government and Politics, has just completed a year as District Governor of Rotary International.

Dr. John Frederick is serving as a consultant to a Congressional Committee on Transportation. He has delivered a number of addresses in various parts of the country—New York, Kansas City, Oklahoma City, and Washington—on the problems of air transportation.

Dr. O. E. Baker has delivered a number of speeches on "Population" at various places in the country.

Professors Wedeberg and Cissel served as consultants to a Congressional Committee investigating the accounting procedure of an important Federal War Agency.

Drs. Clemens, Dillard and Gruchy are preparing manuscripts on subjects in the field of economics that will appear in book form in the relatively near future. A revision of Dr. Frederick's book on Air Transportation came off the press in the early fall, and he is preparing material for a new book on Airport Management which should be published some time in 1947.

The *esprit de corps* of the staff, as a whole, is good. We need more like them, together with adequate physical facilities.

College of Education

H. R. BRECHBILL, *Acting Dean*

THE report of the College of Education submitted August 29, 1944, begins with the statement, "The period from October 1, 1942, to July 1, 1944, has been one of retrenchment and declining enrollments, the result of war." In contrast therewith the period from July 1, 1945, to the present date has been one of expansion and increasing enrollments. Additional staff members have been employed with further increases contemplated to serve the increasing demand upon the facilities of the College. The following tabulation reveals the growth of a three-year period in the undergraduate classes in College Park:

	Spring Quarter		
	1944	1944–45	1945–46
Seniors	13	28	47
Juniors	22	39	49
Sophomores	31	57	70
Freshmen	46	69	139
Part Time and Unclassified	22	59	120
Total	134	252	425

Distribution of Students

The distribution of students preparing to teach in the various subject matter areas remains poorly balanced. In recent years graduates in all areas have been insufficient in number to meet the need for new teachers in the schools. Social studies and English are the areas in which the supply was best. The present prospect is for an adequate output in these two fields and in physical education. A sharp upturn this year in industrial education gives promise of improved supply in this area. Enrollments in mathematics, science, language, and business education are far too small and home economics needs further expansion.

Child Study

Increased emphasis has been given in our program to child study and nursery school education. The full time of one professor is now devoted to this area and further expansion is contemplated in accordance with need and demand in the state. A demonstration nursery school for which a new building would be necessary is an urgent need for this department.

The Graduate Program

During the war the graduate program in Education was greatly curtailed. No new candidates for the Ph. D. degree were accepted

and the number of graduates on the Master's level was reduced. Nevertheless, of 22 persons upon whom Master's degrees were conferred in August, 1945, and June, 1946, 11 were in Education.

Because of new salary scales and generally rising professional standards in the public school system, there is an increasing demand for graduate instruction among the administrative officers, principals and teachers of Maryland and the District of Columbia as well as neighboring states. In order to provide proper instruction and guidance to this important group, it is necessary not only to restore the faculty to prewar strength, but to provide a number of new professorships within the next year. The fact that the State Department of Education and the Department of Education of Baltimore have begun to look to the University for professional leadership and field service involving institutes, workshop and study groups, emphasizes the compelling need for the addition of several highly competent professors, if the University is to avail itself of its present opportunity to render service in these directions. The return of Dean Benjamin and the addition to the faculty of associate professors in educational administration and home economics education are first steps in this necessary expansion.

Industrial Education

The war virtually wiped out the department of industrial education at College Park and reduced it greatly in Baltimore. At the same time, teachers in the schools in this vital subject matter area were practically unobtainable. The return of peace has intensified the demand for such teachers in the field and is now belatedly bringing steadily increasing enrollment into the department on both campuses. The associate professorship of industrial education in College Park, which has been vacated, was re-established in September, 1945, and at the same time a new associate professorship was set up mainly for extension work in trade and industrial teacher training. At the present date, both of these positions have heavy schedules and additional help at College Park will be needed very soon. About 50 full-time industrial education students are now enrolled and further increase is certain.

Baltimore Program

A special section of this report is devoted to the program of the Baltimore Center. Suffice it to say here that the demand for courses in Baltimore and out of Baltimore is such that a school of several thousand students could readily be developed there if the University saw fit to encourage such development. The work now in demand falls into four types as follows:

1. In-service training for industrial and other teachers.
2. General undergraduate courses in liberal arts, business, and other curricula.

3. Graduate work in various fields, especially education and physical science.
4. Service courses with or without college credit for groups of workers in industries and offices.

Art and Music

In the catalogue for 1946-47, there appeared for the first time a curriculum for teachers of art. The program offered involves extensive service from the art departments of the Colleges of Home Economics and Arts and Sciences with whose cooperation it was designed. No enrollments have yet been recorded in this curriculum although there is an active demand for art teachers.

Similarly an active demand exists in the secondary schools for teachers of music. As soon as the music department of the University is able to undertake the necessary courses, a curriculum for music teachers in the College of Education should be provided.

Summer Sessions

The summer sessions of the University were planned originally chiefly to provide in-service training for teachers of the public schools. During the early years of the war, various plans were successively in effect providing for acceleration of the programs of regular students. During these years the teacher enrollment was small and was partly compensated for by larger enrollments of regular students. However, enrollments declined and the low water mark was reached in the session of 1945 when enrollment amounted to only 465, about half of whom were teachers. In 1946, partly because of larger teacher enrollment and partly because of the return of veterans, the attendance at summer school increased to 1,349 persons.

Because of the great variety of needs represented in this 1946 session, an unusually varied program of classes was needed. In spite of uncertainties attending this first postwar session, the budget was successfully balanced.

During the summer session two institutes were held. The Institute on Professional Relations is a one-day affair conducted under the joint sponsorship of the National Education Association, the Maryland State Teachers Association and the College of Education. It has become a regular annual event.

A three-day Institute on the Planning and Construction of School Buildings was held in July for the benefit of Maryland school administrators, by whom it was well attended.

A third event was a School for Tax Assessors which was this summer administered by the Summer School. However, it is recognized that this function properly belongs to and should be taken over by the College of Business and Public Administration.

In all probability the Summer School Session of 1947 will be substantially larger than that of 1946. In view of the extensive service rendered to the state by the Summer School, the present appropriation seems quite inadequate. It is recommended that the Legislature be requested to appropriate an amount of the order of $25,000 for this activity.

General

The faculty and staff of the College of Education have maintained throughout these trying years an excellent spirit. There is good *esprit de corps;* little dissatisfaction and a high degree of application to work. Relations between the College and the departments of education of the state, the cities of Baltimore and Washington and the various counties are increasingly friendly and cooperative.

Baltimore Division, College of Education

GLEN D. BROWN, *Director*

COMPARATIVE data on individual enrollments and schedules of course offerings in the Baltimore Division reflect interest and demands of the adult public of Maryland for off-campus education and training services of the State University.

During the World-War-II years the University program in Baltimore converged upon all-out aids to war efforts. Regular offerings and enrollments naturally diminished. During 1944-45 the individual enrollments in the Baltimore Division, College of Education, totaled 495. This number suddenly increased to 712 during 1945-46, with a corresponding spread of course offerings for increasing numbers of adult groups.

Of the 712 individual enrollments in 1945-46, 586 were on the undergraduate level and 126 pursued graduate work.

Outstanding interest on the part of industry, business, and public service groups in metropolitan Baltimore brought further expansion of in-service training by the University. Special programs such as already conducted at the Calvert Company were developed and put into operation during the biennium 1945-47 for the Glenn L. Martin Company, Rustless Iron and Steel Company, Maryland Training School for Boys, Baltimore Department of Recreation, and others.

There was continuance of in-service programs of industrial education in Baltimore, extended for groups in adjacent counties and notably in Hagerstown.

Among the most significant measures of trends and progress in the Baltimore Division were the previously emphasized growth in enrollments and course offerings; the transposition of Engineering-Science-Management-War Training into Engineering Extension Programs; the approval of the Baltimore Education Center by the Veterans Administration and the increasing number of veteran enrollments; the initiation of a program in Industrial Safety Engineering co-jointly with the Baltimore Safety Council; the unusual expansion of curriculum offerings in the physical sciences, particularly graduate courses in Chemistry and Basteriology; and the unprecedented numbers of adults desiring to take advantage of the opportunities given by the State University to continue their higher education.

College of Engineering

S. S. STEINBERG, *Dean*

THE period covered by this report marks the transition from war to peace. It therefore includes the many and varied projects undertaken by the College of Engineering to aid the war effort and those later activities designed to take care of returning veterans who had chosen to study for the engineering profession.

As we review the accomplishments during the war of the alumni and faculty of the College of Engineering, we may take pardonable pride in the fact that whether on the field of battle or in research laboratories, whether in industrial plants or in the training of soldiers and industrial workers, each gave his utmost to help to bring the war to a successful conclusion.

Glenn L. Martin Gift

The outstanding development of the biennium was the generous gift of $1,700,000 from Glenn L. Martin, pioneer aviator and Baltimore airplane manufacturer, for the establishment of the Glenn L. Martin College of Engineering and Aeronautical Sciences with new engineering buildings and equipment. This gift was followed later by an additional gift of $800,000. The Maryland Legislature appropriated $750,000 to add to the Martin gift. An endowment of $200,000 has been set aside for the Glenn L. Martin Aeronautical Research Foundation.

The entire project is expected to result in the largest single advancement in the history of the University. Construction of the first unit, the Wind Tunnel Building, is to be completed in the fall of 1946, and the other buildings will follow as soon as construction materials become available again in quantity.

Student Enrollment

Upon the discontinuance of the Army Specialized Training Program, and as a result of the operation of the Selective Service Act, the total enrollment in the College of Engineering diminished greatly during the biennium, as it did in the entire University.

Engineering, Science and Management War Training

With the intensification of the war effort, the Engineering, Science and Management War Training Program, conducted throughout the state by the College of Engineering in cooperation with the U. S. Office of Education, increased in scope and activity. As a result of this training, conducted in centers located at College Park, Baltimore,

Aberdeen, Hagerstown, Cumberland, and in Washington, D. C., more than 11,000 men and women were trained for war industry and for the Army and Navy.

Department of Chemical Engineering

As Chemical Engineering was not included in the Army student training course programs, there was a decreased student load in the period of the biennium. With the opening of the academic year 1945-46, particularly with the beginning of the second semester (February, 1946, to June, 1946), some small enrollment of returning veterans was noted.

Notable contributions of the staff of the Department of Chemical Engineering took the form of service to the war effort and in the immediate postwar activities of the Government.

The following papers were published:

Bureau of Mines Report and Investigations 3782, "Studies of the Effect of Humidity on the Sensitivity and Dispersion of Black Powder," by Raymond H. Moore, of the Bureau of Mines, and Wilbert J. Huff, Chairman, Department of Chemical Engineering, University of Maryland.

Bureau of Mines Report of Investigations 3793 (report of), "Studies on Explosives and Explosions, Fiscal Year 1945," by Wilbert J. Huff.

Bureau of Mines Report of Investigations 4031 (report of), "Studies on Explosives and Explosions, Fiscal Year 1945," by Wilbert J. Huff.

Dr. Wilbert J. Huff, Professor and Chairman, Department of Chemical Engineering, served as Consulting Explosives Chemist to the Bureau of Mines throughout the war period and directed research and routine studies of the Explosives Division of the Bureau. This Division carried on work on gaseous explosions and internal combustion engines as well as explosives. In May, 1946, he was promoted to Consulting Chemical Engineer of that Bureau with the highest technical rating, P-8, given by the Civil Service.

During the war years when the Maryland Explosives Act was enforced under the direction of the State Insurance Commissioner, Dr. Huff served as consultant to the Insurance Commissioner in reference to the storage of explosives and the design and location of facilities for manufacturing and storing explosives. Through the activities of Dr. Huff there was brought to the attention of the State the illegal storing of a large quantity of black powder, said to be some 600,000 pounds, within 500 feet of the right-of-way of the main line of the Pennsylvania Railroad between Baltimore and Philadelphia. An explosion of this heavy store of black powder would have jeopardized

essential war transportation over which large quantities of munitions were flowing to overseas shipping points. The location was close to a city engaged in a heavy schedule of war production, including ammunition elements, and the accidental explosion of this quantity of black powder would have had a serious effect on the morale of the workers in the vicinity and might have caused material interruption to adjacent manufacturing operations. Following the discovery, the store of black powder was removed to a safe out-of-state point.

By appointment of the Secretaries of War, Navy, and Interior, Dr. Huff served as chairman of the Army-Navy Bureau of Mines Board on the Storage of Smokeless Powder. This board is concerned with the reduction of the hazards that may be developed by the storage of surplus ammunition containing smokeless powder.

Dr. Huff also served as consultant to the Safety and Security Division of Army Ordnance and participated in the planning of the programs for the Army-Navy Explosives Safety Board and the observations of tests of hazards developed by the detonation of large quantities of high explosives.

Dr. Huff is author of a section on Gaseous Fuels of the Chemical Engineers' Handbook. This was revised and brought up to date.

Dr. Huff is a member of the Chemical Committee of the American Gas Association and chairman of its sub-committee on Chemical Aspects of Safety in the Gas Industry. He is author of a sub-committee report published in October, 1945, on the subject in question. He also serves on the sub-committees charged with maintaining up to date technical publications of the American Gas Association Chemical Committee.

He is a cooperating technical expert on Committee D-3 of the American Society for Testing Materials on gaseous fuels and serves on a number of its sub-committees.

At the request of the War Production Board, Dr. Huff participated in the investigation of explosions of acetylene generators in shipyards on the East and West Coasts and served as a consultant to a committee of that Board concerned with questions of generator design involved in such explosions. These investigations developed important new industrial information on the properties of calcium carbide. The safe production of acetylene in shipyards was an essential part of wartime ship building, and explosions in acetylene generators contributed a serious threat to the ship-building operations and to the morale of the workers. In reference to this the following letter was addressed by E. C. Kent, Chief, Compressed Gases Unit, War Production Board, Washington, on March 12, 1945, to the Director of the Bureau of Mines (excerpt from):

"The investigators are to be complimented on their perseverance in obtaining the answer to the causes of the explosions which took place in this type of equipment. . . . It should now be possible for carbide manufacturers to produce a product which will be satisfactory for use in acetylene generators operating at pressures between 5 and 15 psi gauge."

At the request of the Board of Economic Welfare and the successor administrations on economic affairs, Dr. Huff directed research that led to the successful development of a new military high explosive from materials ordinarily not used for this purpose. The research was directed to supply scarcities in the interior of Asia, which at that time was blockaded to an important degree by the Japanese.

Department of Civil Engineering

Throughout the biennium this Department strengthened its cooperation with state and federal agencies and private industrial organizations. The research activities of the National Ready Mixed Concrete Association were developed during this period in conjunction with the work of the National Sand and Gravel Research Foundation, which has already been operating on our campus for some years in close cooperation with the Department of Civil Engineering.

During the biennium considerable equipment was added in this Department and there was secured from surplus government war property a 100,000-pound Riehle testing machine, which has increased the student capacity in the Materials Testing Laboratory.

During the spring of 1945, the U. S. Department of State commissioned Dean S. S. Steinberg, Head of the Department, to make a survey of engineering education in Latin America. Other objectives of the trip were to study bases for the exchange of engineering professors; to arrange for interchange of engineering and technical publications; and in general to promote good will and better relations between the educators and engineers of Latin America and those of the United States. The trip extended from July 15 to November 1. Practically the entire tour was made by airplane and covered 18,000 miles. Twenty-five engineering schools located in 12 countries were visited.

For this study Dean Steinberg was designated official representative of the Society for the Promotion of Engineering Education (now the American Society for Engineering Education); and of the American Society for Mechanical Engineers as well as the American Society of Civil Engineers. As a result of his tour, Dean Steinberg was named Honorary Professor of the Central University of Ecuador; Honorary Member of the Cultural Institute of Ecuador; Special Representative of the Federation of South American Engineering Association; Honorary Member of the Association of Engineers and Archi-

tects of Mexico; Honorary Member of the Argentine Society of Engineers; and Honorary Member of the Institute of Engineers of Chile. Since his return to the United States, Dean Steinberg has been serving as adviser to the Department of State on all matters relating to engineering education.

Other appointments and elections received by Dean Steinberg during the period of this report follow:

American Society for Engineering Education
- Member, General Council of Safety.
- Member, Executive Committee, Engineering College Administrative Council.
- Representative of Society in Washington on Surplus War Property for educational institutions.

Engineering, Science and Management War Training
- Continued to end of war as Regional Representative of the U. S. Office of Education for Maryland, District of Columbia, Virginia, West Virginia, and North Carolina.

Engineers Joint Council (representing the five national founder engineering societies)
- Advisory Member, Committee on International Relations.
- Chairman, Commission on Latin America.

Maryland Committee on Water Pollution
- Appointed Chairman by Governor H. R. O'Conor.

Maryland State Board of Registration for Professional Engineers and Land Surveyors
- Reappointed by Governor H. R. O'Conor a member for another five-year term, representing the Civil Engineers and Land Surveyors of the State.

Department of Electrical Engineering

During the past two years this Department greatly increased its activities and contacts and added considerable equipment in its laboratories.

To satisfy the demands for part-time graduate study late afternoon and evening classes in Electrical Engineering courses were inaugurated. For the most part the students are members of the engineering and scientific personnel of the Naval Ordnance Laboratory, the Naval Research Laboratory, and the Bureau of Ships. About 150 such students are taking graduate work leading to the degree of Master of Science.

Many of these students are engaged in research in their organizations and are working under the guidance of this Department. One research project has been started under the auspices of the Office of Research and Inventions.

As a result of the disposal of surplus war property, the Department has secured power supplies, radio transmitters, radio receivers, and radar sets. Through special arrangement with the Westinghouse Electric Corporation, industrial electronics equipment valued at about $10,000 was purchased by the Department for $2,500. This equipment includes X-ray apparatus, an electric welder, and high frequency heating equipment. Laboratory facilities were further augmented by gifts from the Western Electric Company and the General Electric Company.

Recently Prof. George F. Corcoran, Head of this Department, was appointed Advisory Editor of the "Pitman Electrical Engineering Series," published by the Pitman Publishing Corporation.

This Department and the entire University suffered a great loss in the death of Prof. Myron Creese on July 30, 1945. Professor Creese was a capable and conscientious teacher who served the University faithfully for 38 years. He was the founder of our Department of Electrical Engineering and served as its head until September, 1941.

Department of Mechanical Engineering

Since the close of the war considerable laboratory equipment has been secured for this Department from surplus war property. This includes Otto cycle engines, Diesel engines, and miscellaneous shop equipment. In addition, needed laboratory equipment has been purchased.

In the fall of 1945, the Department organized late afternoon and evening classes in Mechanical Engineering for employees of the Naval Ordnance Laboratory, the Naval Research Laboratory, and the David Taylor Model Basin.

Dr. J. E. Younger, Head of the Department, continued to serve as the Director of the Aviation Division of the American Society for Mechanical Engineers. Recently the Council of the Society commended Dr. Younger for his conduct of that Division.

In July, 1944, the James F. Lincoln Welding Foundation presented to the Department a Welding Library consisting of about 75 books and subscriptions to welding magazines. This library is being added to from time to time by additional gifts from the Foundation.

Fire Service Extension Department

This Department has continued to progress since its inception in October, 1937.

On September 8, 1945, ground was broken for a new Fire Service Building to house the facilities and offices of the Department. Actual construction began on October 29, 1945, and the building is scheduled to be dedicated in September, 1946. The new unit will include the latest equipment and devices for fire extinguishing, fire detection and fire protection.

In 1944-45 there were 605 volunteer firemen enrolled in the several firemen's training courses; in 1945-46 there were 750. Commencing July 1, 1946, the instructional staff was changed from three part-time regional instructors to one full-time senior instructor.

At the request of the Ladies' Auxiliary to the State Firemen's Association, this Department is conducting classes in fire prevention and in public speaking to equip this group of women to carry on fire safety activities with women's clubs, parent-teacher groups, and with pupils in the public schools. In addition, arrangements are being made to hold short courses for large groups in Maryland having an interest in fire safety, including janitors and building custodians, watchmen, nurses, hospital attendants and school teachers. The Department is also planning to conduct a short course for fire marshals for the eastern seaboard territory.

The training course material developed by this Department is still being used in many other states, including Oregon, Montana, Nevada, Illinois, Virginia, and Maine.

The Department continues to serve in an advisory capacity to the State Fire Marshal's Office and has been commissioned to conduct promotional examinations for the Baltimore City Service Commission in connection with their fire department and airport.

The Director, James W. Just, was recently named District Chairman for Maryland for the National Fire Waste Council of the Chamber of Commerce of the United States. He is also serving on the following nation-wide committees of the National Fire Protection Association: Vice-Chairman, Firemen's Training Committee; Sub-Committee Chairman, Training Manuals; Member, Committee on Aviation and Airport Fire Protection; Member, Committee on Farm Fire protection; and Member, Fire Marshals' Section.

Mining Extension Classes

These classes offered in cooperation with the College of Engineering, the State Bureau of Mines, the State Department of Education, and the County Boards of Education of Allegany and Garrett counties, have continued in the western part of the State. Classes were held at Barton, Crellin, Frostburg, Kempton, Kitzmiller, Lonaconing, Mt. Zion and Vindex. During the period of this report 168 persons completed these courses.

Graduate School

C. O. APPLEMAN, *Dean*

THE years of the biennium covered in this report are the immediate post-war years. The impact of post-war conditions on graduate work will be especially stressed in this report. The outstanding steps during the biennium in the steady progress in graduate work will be briefly stated.

The enrollment of graduate students for each year of the biennium is shown in the following table:

	1944–1945	1945–1946
Regular academic year	282	773
Short summer session (1944)	49	(1945) 105
	331	878
Less duplicates in summer session	16	41
Total net enrollment	315	837

The enrollment for the academic year 1944-1945 still reflected the effect of the war. It was only about 38 percent of the enrollment for the year 1940-1941. The enrollment for the year 1945-1946 began to show the impact of post-war conditions. It was slightly more than that for the previous high of 1940-1941. The returned veterans and the great increase in part-time students will bring the enrollment in the Graduate School for 1946-1947, plus the graduate students in the summer session of 1946, in excess of 1500 different students.

The enrollment in the Graduate School is selective and is dependent to a large extent upon the eligibility of the applicants and upon the quotas established by various departments. An extra effort has been made to accommodate the qualified veterans who apply, especially the Maryland veterans.

Beginning with the second year of the biennium, late afternoon and evening courses were provided for qualified personnel of the various naval establishments in and around Washington. These courses are in mathematics, electrical engineering, mechanical engineering, aeronautical engineering, physics, and chemistry. A total of 46 such courses are now being sponsored by the University of Maryland. The superb facilities of the various naval laboratories may be utilized for thesis research under the direction of the University department in which the student is doing his major work for the advanced degree sought.

The high percentage of part-time students in special late afternoon and evening courses makes it possible for the University to carry the present high total enrollment of graduate students.

Advanced degrees conferred for the ten year period 1938-1947 are shown in the following table. The degrees conferred during this period are a good index of the impact of the war and the post-war conditions on graduate work.

Year	M.A.	M.S.	M.Ed.	Ph.D.	Total Masters	Grand Total
1938.....	28	35	..	17	63	80
1939.....	19	44	..	16	63	79
1940.....	26	43	..	18	69	87
1941.....	31	33	27	29	91	120
1942.....	13	26	22	30	61	91
1943.....	24	16	25	29	65	94
1944.....	22	12	20	6	54	60
1945.....	14	12	13	12	39	51
1946.....	5	9	8	12	22	34
1947.....	22	33	53	22	108	130*

* Estimated

To meet the increasing necessity for the United States to have available personnel trained in foreign languages and foreign backgrounds, the Graduate School established a Master's Degree in Foreign Study. Most of the work for this degree will be done in foreign area study centers under the supervision of University of Maryland professors. The first locations are planned for Paris and Zurich.

A new degree of Doctor of Education was established in the Graduate School. The program of work leading to this degree will offer a type of graduate study beyond the Master's level which will give a broad and comprehensive understanding of the whole field of education and of various subjects fundamental to education for school administrators, experienced teachers occupying important positions in their communities and other educational workers who are not qualified for or interested in the research specialization required for the degree of Doctor of Philosophy.

The Graduate School has always had a few students from foreign countries but only since the war has the number of applicants from foreign countries become a problem. The various departments have made an extra effort to accommodate the best of these foreign students. The students who are selected and financed by their own government, as for example those from Egypt and India, have made exceptional records in the Graduate School. Foreign students who have been enrolled in the Graduate School since the war include one or more from the following countries: Egypt, India, Iran, Iraq, Canada, China, Greece, Netherlands, Spain, France, Cuba and South American countries.

College of Home Economics

MARIE MOUNT, *Dean*

A BRIEF summary of the work of the College of Home Economics for the past two years follows:

The enrollment in home economics has increased during this two year period. The fall of 1946 finds the enrollment in the College of Home Economics the highest since home economics became a part of the University courses of study. The need for professionally trained home economists during the war and since is so great that a national recruitment program to increase college enrollments in home economics has been inaugurated by the American Home Economics Association.

Beginning with the six weeks summer session of 1945, the University changed from the quarter system to the semester system. This change made necessary certain curriculum adjustments and the revision of many of the home economics courses.

Faculty and Staff: There has been more than the usual turnover in home economics faculty during the past few years, particularly in the fields of foods, nutrition, and institution management. This situation is being corrected as fast as possible and a good faculty is resulting. For the first time, two men have joined the home economics staff—in the Department of Practical Art.

Members of the Home Economics faculty have served with various national professional associations as committee members and officers and have appeared on state and national programs.

Curriculum and New Courses: A crafts curriculum has been added to the Practical Art offerings and Practical Art curricula have been adjusted to admit men students.

The College of Home Economics has cooperated with the College of Education in establishing a curriculum in Nursery School Education. The majors in this field are required to take certain home economics courses.

New courses have been added by the Textiles and Clothing Department to meet the requests of students for more work and experience in making and remodeling clothes. Requests for courses in certain fields reflect, usually, social and economic conditions. The high cost and the scarcity of ready-to-wear clothes have caused women to construct and make over more clothing at home than was the case before the war.

Facilities: During the summer of 1946 plans for the completion of the top floor of the Home Economics Building were made. This

will provide laboratory space for textiles, clothing, food experimentation and photography. When the textile laboratory is moved from its present location the space planned earlier as a home management laboratory will be given over to that use, providing space for home management laboratory courses and for research studies. A laboratory is being equipped for crafts, with classes to begin this fall.

The experimental foods laboratory will enable us to cooperate more fully with the various departments in the College of Agriculture in their research on foods grown and processed in Maryland.

The photography laboratory will provide training for fashion photography and for food photography necessary for home economics positions on magazines and other publications pertaining to home life.

Illustrative art materials were acquired in 1945 and '46: prints depicting ancient art and large color reproductions showing modern painting techniques are on exhibit permanently in the halls and offices of the Home Economics Building.

Scholarships: Two thousand dollars for scholarships was given to the College of Home Economics to encourage students strong in science to major in the fields of textiles, foods and institution management and extension. Certain merchants from Washington and Baltimore have provided three three-hundred-dollar scholarships each year for outstanding students interested in art in merchandising in the Department of Practical Art.

Publications: A pamphlet entitled "Today the World is Art-minded" was prepared by the staff of the Department of Practical Art. This pamphlet gives a brief description of places in Maryland, Washington and nearby Virginia where art collections, interesting old houses and old furniture are on exhibit.

School of Dentistry

J. BEN ROBINSON, *Dean*

THE biennium just closed brought to the Dental School problems of reorganization and readjustment imposed by the termination on V-Day and J-Day of active hostilities in World War II. The teaching program in the Dental School was adjusted in the early days of the war to meet the military needs imposed on it. This adjustment involved fundamental changes in curriculums and schedules that are not appropriate to peace-time teaching. In the circumstances, it became necessary during this biennium to revert to peace-time conditions in programs and policies in order to restore the work in the Dental School to normal activities. Therefore, deceleration, curriculum adjustments, modifications of courses and an augmented personnel, all presented problems to which the Faculty gave its full attention.

In order to get back to a peace-time schedule and to strengthen the instructional program it was necessary to make fundamental changes in the curriculum arrangement. Efforts in the past to schedule many short courses under a semester arrangement and the effects of shortening courses by allocating a great amount of teaching time for examinations, tests and special lectures called for a fundamental change in the schedule arrangement. In order to meet the situation it was decided to abandon the semester plan of sixteen weeks and to substitute the trimester plan of twelve weeks. A careful study was made of the offerings in the curriculum in order to determine their relative values and the emphasis to be placed on them. As a consequence, a number of important changes were made. Some courses were reduced in extent; others were enlarged in scope; while some new courses were introduced as necessary adjuncts to the curriculum. The net result of the survey and the rearrangement of the curriculum has been to ease pressures and to provide a better balance of the subjects in the curriculum. The trimester plan was begun at the opening of the 1945-46 session by including only the entering freshman class. Both the freshman and sophomore classes for 1946-47 are scheduled on this basis, while all classes for the session 1947-48 will be organized on this plan.

During the war period the American Dental Association made a study of the possible post-war needs of the returning veteran dental officer. Because of what appeared to be a probable demand for refresher courses for veteran dental officers, the American Dental Association proposed a plan for dental schools to follow in offering refresher, post-graduate and graduate courses in order to give returning dental officers opportunities for special study that would

strengthen their preparation for entering private practice. The School of Dentistry, University of Maryland, organized a series of courses which it offered to those who desired to take advantage of them. Only a limited number of veterans showed real interest in the refresher courses, but a large number, which taxed the facilities of the Dental School, sought opportunities in the graduate field. The Dental School has accepted as many graduate students as it can accommodate and is now working on plans to continue and to broaden in scope and usefulness the several advanced courses. The post-graduate and graduate curriculums are firmly established in the Dental School, and as time goes on they must be expanded and improved for the benefit of the graduate dentist.

Certain appropriations were made by the 1945 Legislature for expanding the physical facilities of the Dental School in order that it might provide for graduate courses to prepare dentists to enter the specialties and for broader opportunities for teachers to engage in research. Despite the facts that much effective research is being done and that the research program is moving forward substantially, they will show a marked improvement when the new building with its much needed facilities becomes a reality.

In 1944 the War Department issued orders to discontinue the Army Specialized Training Program, and later the National Selective Service declined to offer deferment to students who sought to begin the study of dentistry. These obstacles proved very detrimental to dental education in the United States, resulting in a very small freshman class among the dental schools for the fall of 1945. As a consequence, the Dental School, University of Maryland, has gone forward with its 1945-46 freshman class as one of the smallest classes in the history of the Dental School. The enrollment for the biennium is as follows:

	1943–44	1944–45	1945–46
Freshman	100	82	25
Sophomore	62	76	73
Junior	61	59	75
Senior	85	63	60
Total	308	280	233

Conditions unfavorable to the effective administration of instruction have existed in the Dental School with respect to the low official rank of heads of certain departments, to the ineffective organization of other departments, and to the insufficient personnel strength in certain basic science subjects. These conditions have been forced on the Dental School by limited appropriations for the maintenance of instruction that have made it impossible for heads of departments to be promoted to full professorships, for an adequate number of com-

petent assistants in the lower ranks to be provided several of the departments and for the staffing of certain clinical departments with higher ranking heads. There has been a thorough appraisal of these needs, and plans have been made to include in the next biennium budget sufficient funds to correct these faults by the advancement of four basic science teachers from associate professor to full professor, by providing for an increased number of instructors of lower rank to make available sufficient personnel to carry on instruction in all the basic science courses and by providing for a full-time professor to head one of the clinical departments and by creating a director of another department who shall have full professorial rank. These deficiencies in personnel and in organization have been allowed to continue throughout the war period because of lack of available personnel and lack of financial support to change them. The corrections outlined above will go a long way toward improving instruction in the Dental School.

School of Law

ROGER HOWELL, *Dean*

IN the last two biennial reports, attention was called to the effect of the war upon the work of the Law School. The drastic reduction in student enrollment and the loss of several faculty members to the armed forces and government work made it a matter of very considerable difficulty to plan and offer a curriculum that would afford at least the minimum essentials of sound legal education. That this was, nevertheless, successfully accomplished constitutes in itself an achievement in which some pride may be taken. It was possible only through the devotion and loyal cooperation of the remaining faculty members, who all at various times took over unfamiliar courses, carried teaching loads well above normal, and taught for four years the year round without additional compensation, foregoing their usual vacation periods.

During the period since V-J Day, the situation has changed completely. In October, 1945, the number of students in the school was 113, as compared with 90 in October, 1944. In October, 1946, the registration was 310. This represents an increase of nearly 50 per cent over registration in the last normal prewar year, 1940, and whereas in 1940 the registration was spread fairly evenly over all classes, now 177 of the 310 students are in the first-year classes. Since an abnormally large number of applicants may be expected for at least the next few years, a difficult problem is presented, both with reference to the ability of the school to give proper instruction and also with reference to its responsibilities to the legal profession, the State, and the students themselves.

In considering the problem of providing adequate educational opportunities for veterans, a distinction must be made between general education and professional training. There cannot be an excessive number of educated members of the community from the standpoint of general education, for general education is beneficial no matter what the individual may do; no limits, consequently, other than those imposed by an institution's facilities for furnishing adequate and proper instruction, should be placed on the numbers of persons for whom general education is made available. Professional training, on the contrary, is of little value unless the invidivual can utilize it; to train more students for a profession than the profession can absorb is harmful to the students, to the profession and to society, and leads to a breaking down of ethical and professional standards. Professional schools, consequently, unlike those departments of the University providing general education, must limit the number of their students to a figure corresponding to the need for additional members of the various professions.

Law was a crowded profession before the war; and this was especially true in Maryland, according to census figures showing the percentage of lawyers to population in the various states. Law graduates not ranking in the limited top scholastic bracket or without personal connections found it increasingly difficult to secure a start in their profession after graduation. The temporary wartime shortage of lawyers no longer exists with the return to practice from military service of large numbers of younger lawyers. The heavy increase in our registration, particularly in the first-year class, therefore raises very directly the question as to our admission policy in the immediate future. It is submitted that a definite limit should be imposed upon the number of applicants accepted in any year. It is doing the returning veteran little good to educate him for a profession which will have no room for him when he graduates. It is doing the legal profession and the State a disservice to train more lawyers than are needed, for the competition so engendered makes for unethical practices and a breakdown of professional standards. Moreover, classes as large as that entering in 1946 cannot be properly taught without sectioning, which in turn would necessitate more instructional staff and more classroom and library space than our present facilities permit. In the absence of some limitation upon the size of future entering classes, it follows that the quality of instruction will suffer.

The heavy teaching schedules necessitated both during the war and during the present period of reconversion left little opportunity for faculty research. Nevertheless, a considerable amount of such activity has been in progress. Professor Strahorn and Professor Jones have carried on the Maryland annotation work for the American Law Institute Restatement of Judgments and Property; this work has been under the general direction of Professor Reiblich, who resigned from the faculty in 1946 to enter private practice, as chairman of the State Bar Association Committee on the Restatements. Professor Strahorn has also been the Reporter for a portion of the Uniform Commercial Code in course of preparation under the auspices of the American Law Institute and the Commissioners on Uniform State Laws. Professor Invernizzi, who returned to his duties in 1946 from naval service, has been appointed Reporter for the Rules Committee of the Court of Appeals, engaged in the study and revisions of Maryland procedure. Mr. Case, of the part-time faculty, was a member of the Sherbow Commission on the Distribution of Tax Revenues and assisted the Attorney-General's offce in the preparation of legislation to carry out the recommendations of the Commission. Dean Howell acted as advisor to the Commission on the Revision of the State Election Laws in 1945. In addition, members of the faculty, both full and part-time, have participated actively in committee work of the Maryland State and Baltimore City Bar Associations and of the Association of American Law Schools.

The School also cooperated with the Maryland State and Baltimore City Bar Associations in offering a six-week refresher course during February and March, 1946, to lawyers returning from service; the lectures were given at the School by members of the Bench and Bar of the State and of the Law School faculty and were most successful, being attended by approximately 200 veterans.

School of Medicine

H. BOYD WYLIE, *Acting Dean*

THIS period saw the change from war to peace and the graduation of three classes from September, 1944, to March, 1946, in cooperation with the accelerated wartime program, the latter having begun on June 25, 1942. In addition, the faculty of 416 contributed 137 members to the armed forces. The remaining 279, mostly older men, carried on the tasks of teaching plus their obligation to civilian patients. That the job was well done is signalized by the record of the first class to complete the regular four-year medical course in three calendar years, whose members took State Board examinations in 11 states, 99 per cent of them passing.

During this biennium student rolls were increased to 379 in 1944, 375 in 1945, in cooperation with the war effort, but the number was permitted to drop to 359 late in 1945 after the war ended.

The latter months of 1945 and the early months of 1946 saw the inactivation of our ASTP and V-12 units. At the same time the Admissions Committee began to feel the impact of veterans seeking medical education under Public Laws 346 and 16. Sixty-three veterans were admitted to the freshman class of 90 entering September 5, 1946.

The Medical School also began active cooperation with the Veterans Administration through its membership on the Deans' Committee, whose duty involves approval of eligibility of applicants for positions as consultants, attending physicians and residents in the veterans' hospitals at Fort Howard and Perry Point, Maryland. The aim of this activity is to provide the best of medical care for our veterans in these localities.

Following the ending of the hostilities our men on leave in military service began to return to reassume their duties at the Medical School, so that at the end of the biennium only a handful still were on active duty. These men did credit to the Medical School not only in the operation of our two General Hospitals, Nos. 42 and 142, but as individuals in many capacities. A number of them received citations for courage in action beyond the call of duty.

While these men were away, the remainder of the faculty took care of 75,000 patient visits in 1944 and 72,000 visits in 1945, in the Outpatient Department, a distinct contribution to the care of the indigent of Baltimore City and the State. During 1944 the Obstetrical Department delivered 2,206 patients in the University Hospital and 910 in the home-delivery service; during 1945 the figures were 1917 and 395, respectively.

A major improvement in the curriculum in this period was the establishment of Anaesthesiology, under the supervision of a full-time professor and assistant professor.

Physical improvements included the renovation of the original medical building and the provision therein of a commodious faculty room.

Research grants to the Medical School amounted to $28,813.00 in 1944 and $34,807.00 in 1945.

Through the cooperation of the Committee on Curriculum and Grades, a more equitable system of grading, and many improvements in correlation of course content and instruction, were made.

The Post-Graduate Committee planned refresher courses for veterans to begin in this biennium.

A Planning Committee was created to study the educational and financial positions of the School of Medicine and University Hospital, on a state level. It was instructed by the faculty to report its findings and recommendations to the Board of Regents and the President.

School of Pharmacy

A. G. DuMEZ, *Dean*

IN the fiscal years ending June 30, 1945, and June 30, 1946, the School of Pharmacy was unable to adjust its expenditures to bring them within its income. Therefore, in the first year of the biennium, there was transferred from the funds of the Schools of Medicine and Dentistry the sum of $24,400.78 to enable the School of Pharmacy to meet an anticipated deficit of approximately that amount. However, the actual deficit amounted to only $13,590.78. In 1946, the income of the School under the accelerated program of instruction was sufficient to meet closely trimmed expenditures and to return to the Schools of Medicine and Dentistry $14,285.00 of the $24,400.78 received in the preceding year.

Expenditures during the past two years have been held to a minimum, but the time has arrived when a substantial amount should be spent for replacing worn-out equipment and for making needed repairs. It is, therefore, recommended that the Governor be requested to increase the present State appropriation by approximately 20 per cent for these purposes.

Physical Facilities:

The School has been handicapped in its program for expansion due to the lack of adequate laboratory and classroom space. In particular, it lacks space for instruction in laboratory work assential for keeping pace with new developments in the biological and chemical sciences and the practice of medicine. Additional space is needed to properly develop courses in analytical chemistry, pharmacology, manufacturing pharmacy and research. Additional space is also needed for housing the animals required for bacteriology, pharmacology and zoology. Additional space of approximately 2900 square feet is needed for these purposes.

Space should also be provided for a rest room for female students and a lounging room for male students. At present our students have no suitable place in which to study or relax when not attending classes. The lack of such space makes it compulsory for students in off periods to congregate in the library or to walk the streets.

Student Enrollment:

Student enrollment reached the minimum during the first year of the biennium. For the year 1944-45 there were enrolled 97 students. The number increased to a total of 118 in 1946. The decrease in enrollment in the first half of the biennium was due almost wholly to the operation of the Selective Service Draft. In some few instances, particularly in the case of prospective female students, it

may also have been due to the attractive opportunities for employment available in the industries and with commercial firms. The table below shows the details of enrollment for the period covered by this report:

Classes	1944–45	1945–46
Freshman	32	53
Sophomore	7	13
Junior	17	8
Senior	20	11
Graduate Students	12	15
Special Students	9	18
Total	97	118

Faculty Changes:

The number of changes on the faculty was unusually large during the biennium owing to the operation of the Selective Service Draft and to the decision to reduce the number of teachers in the lower ranks. Vacancies created by resignations in the lower ranks were not filled as a rule during this period. During the year 1944-45, there were nine resignations and two appointments to fill vacancies. In 1945-46, there were four resignations and five appointments to fill vacancies. Two of the foregoing resignations were from the pharmacy staff in the hospital and three of the appointments were made to the hospital staff.

The matter of adequacy of salaries to hold desirable teachers is one to which serious consideration should be given. During the present biennium the School lost several worthy members of its faculty due to the more attractive salaries paid by other institutions and by commercial firms. It appears that it will be necessary for us to increase salaries substantially if we are to hold teachers in the sciences and professional subjects in particular.

Curriculum:

During the past two years several changes were made in the curriculum to meet the exigencies forced upon the School by the acceleration of its program of instruction as a war emergency. Fundamentally, however, the curriculum was not changed and it is not anticipated that any important or extensive changes will be made in the near future.

At the present time preparations are being made for a general survey of pharmacy to be conducted under the auspices of the American Council on Education. The revelations of this survey when completed may show some changes in the curriculum to be desirable. If so, they will be made as soon as feasible.

Graduate Work:

The number of students doing graduate work in the School of Pharmacy increased from 12 in 1945 to 15 in 1946. The latter figure, however, is considerably below 27, the number enrolled at the beginning of the war. The majority of these students are pursuing graduate work in pharmaceutical chemistry and pharmacology.

The demand in the industries, research and teaching for students who have completed graduate work leading to the doctorate degree is much greater than we can meet and it is expected that this demand will increase in the future. The industries feel so keenly the need for specially trained men and women in their respective fields of operation that they are attempting to induce students to take graduate work by making available to the colleges funds with which to aid these students financially.

Grants for graduate work have been received by the School of Pharmacy during the biennium as follows:

H. A. B. Dunning Research Fellowship	$1,000.00
Richard Hudnut Company for Research	2,000.00
Wm. S. Merrell Company Research Fellowship	1,500.00
Eli Lilly Research Fund	500.00
Winthrop Chemical Company Research Fellowship	1,500.00
Alumni Centennial Research Fund	2,796.50

In view of the foregoing, it would seem that the School should not only continue to provide instruction for graduate students, but should increase its facilities for work of this character.

Publications:

The following is a list of the more important books, papers, etc., published by members of the faculty during the biennium:

Pharmaceutical Chemistry

Gakenheimer and Harting. Amino Alcohols, XIII. The Synthesis of Aliphatic Amino Alcohols of Pharmacological Interest. J. Org. Chem. 9, 85-88 (1944).

Iwamoto and Hartung. Amino Alcohols, XIV. Methoxyl Derivatives of Phenylpropanolamine and 3, 5-Dihydroxyphenylpropanolamine. J. Org. Chem. 9, 513-517 (1944).

Chiang and Hartung. Synthesis of Some Stilbazole Derivatives. J. Org. Chem. 10, 21-25 (1945).

Chiang and Hartung. Synthesis of Dialkylaminoalkyl Esters of Pyridinecarboxylic Acids. J. Org. Chem. 10, 26-28 (1945).

Hartung. Beta-Phenethylamine Derivatives. Ind. Eng. Chem. 37, 126-137 (1945).

Waters and Hartung. A note on the Hydrogenation of *beta*-Phenyl-*alpha*-oximinopropionic Acid. J. Org. Chem 10, 524-526 (1945).

Hartung and Foster. Amino Alcohols, XV. p-Aminopropadrine. J. Am. Phar. Assn. 35, 15-18 (1946).

Mattocks and Hartung. A Synthesis of p-Aminophenylalanine. J. Am. Phar. Assn. 35, 18-19 (1946).

Hartung. Inactivation and Detoxication of Pressor Amines. Annual Review of Biochemistry 15, 593-616 (1946).

Dillon, Estabrook and Hartung. The Influence of Physiologically Active Compounds and Their Inactive Homologs on Phase Boundary Potentials. J. Am. Phar. Assn. 35, 250-252 (1946).

Keagle and Hartung. Tropanone and Its Homologs. J. Am. Chem. Soc. 68, 1608 (1946).

Mattocks and Hartung. A Synthesis of Serine and Its Methyl Ester. J. Biol. Chem. 165, 501-503 (1946).

Zenitz and Hartung. Amino Alcohols, XVI. Phenyl Halogenated Propadrines. J. Org. Chem. 11, 444-543 (1946).

Simonoff and Hartung. Amino Alcohols, XVII. Arylethanolamines. J. Am. Phar. Assn. 35, 306-309 (1946).

Mattocks and Hartung. The Hydrogenolysis of Ethyl *beta*-Benzyl-aminoproporpionate. J. Am. Chem. Soc. 68, 2108 (1946).

Hager, Van Arendonk and Shonle. Synthesis of Stilbenedicarboxylic Acids. J. Am. Chem. Soc. 66, 1982 (1944).

Hager and Shonle. Synthetic Analogs of the Adrenal Cortical Hormones. J. Am. Chem. Soc. 68, 2167 (1946).

Riegel, Hager and Zenitz. Delta-i-Cholestadiene. J. Am. Chem. Soc. 68, 2562 (1946).

Botany Pharmacognosy

Frank J. Slama. Manual for the Identification of Official and Some Non-Official Drugs. Baltimore, 1944.

Pharmacology

C. W. Chapman and L. Karel. The Effect of Ascorbic Acid on the Acute Toxicity of Sulfanilamide for Guinea Pigs. J. Pharmacol. & Exp. Therap. 82 (1944), No. 1, p. 86.

C. W. Chapman and L. Karel. The Effect of Vitamin C on the Determination of Sulfanilamide. J. Biol. Chem. 155 (1944), No. 1, p. 27.

C. W. Chapman and L. Karel. The Vitamin C Level of the Blood Plasma in Guinea Pigs. J. Nutrition 28 (1944), No. 2, p. 89.

G. S. Gittinger. Chinchona and the Count of Chinchon. Am. J. Pharm. Education, Jan., 1944, p. 34.

G. S. Gittinger. A Tribute to Jose Hipolito Unaue. Am. J. Pharm. Education, April, 1945, p. 214.

G. S. Gittinger. Miguel Tafur. Bull. History of Medicine, XVII (1445), No. 3, p. 315.

G. S. Gittinger. Pre-Columbian Healers of Latin America. Am. J. Pharm. Ed., April, 1946, p. 227.

G. S. Gittinger. Jose Mariano Macedo. Am. J. Pharm. Ed., 1946, p. 344.

G. S. Gittinger. Translation from Spanish of Myasthenia Gravis by Adalberto Goni. Williams & Wilkins Co., Baltimore, 1946.

Pharmacy

Lyman, Dille, DuMex, et al. Textbook on Fundamental Principles and Practice of Pharmacy. J. B. Lippincott, 1945.

A. G. DuMez. Annual Reports of the American Council on Pharmaceutical Education for 1944 and 1945.

Physics

G. B. Estabrook. The Effect of High Electrostatic Fields Upon the Vaporization of Moylbdenum. Physical Review, Vol. 63, No. 9, p. 43.

Dillon, Estabrook and Hartung. The Influence of Physiologically Active Homologs on Phase Boundary Potentials. Jour. Am. Pharm. Asso. Sci. Ed., Vol. 35, No. 8, p. 46.

Mathematics

A. W. Richeson. Physical Terms in the NED. Corrigenda. Modern Language Notes, Vol. 58, 1944, p. 419 ff.

A. W. Richeson. On Faraday's Terminology in Electrolysis. Isis, 1946, Vol. 36, p. 160 ff.

A. W. Richeson. The First Arithmetic Printed in English. Isis—accepted.

A. W. Richeson. Sonya Kovalevskia and the Influence of Her Mathematics. Scripta Mathematics—accepted.

A. W. Richeson. The Condition of English Mathematics from 1750 to 1850. The Indian Journal of Mathematics—accepted.

Other Activities:

In addition to carrying out their teaching and administrative duties, most of the members of the staff have participated in activities having a direct or indirect relationship to the war emergency. The Dean and several other members of the staff have acted as consultants to various war agencies or as members of committees cooperating with Selective Service.

One member of the staff has been engaged in directing research on the preparation and testing of stilbazoles, drugs which give in-

dications of possessing anti-malarial properties. Another member of the staff has been engaged in the collection of blood to be used in the preparation of blood typing serum. The latter work was done under the auspices of the Committee for Emergency Services of Civilian Defense.

In addition to their war activities, certain members of the staff have continued to serve on committees for the collaboration in the preparation of our national drug standards, namely, the United States Pharmacopeia and the National Formulary. Two members of the staff are serving on the Revision Committee of the former and one on the Revision Committee of the latter. All the heads of the departments have cooperated actively with the national and state pharmaceutical associations in the work done by these organizations for the advancement of pharmacy and pharmaceutical education in particular. The Dean, for instance, is serving as secretary on the American Council on Pharmaceutical Education, which is the national accrediting agency for colleges and schools of pharmacy.

As in the past, the school has cooperated with the State Health Department and with the state pharmaceutical organizations. The Dean is serving as a member of the Council on Medical Care of the State Department of Health. Various members of the staff have rendered assistance to the State Board of Pharmacy in preparing and holding its examinations for licensure. The facilities of the pharmacy building for holding meetings have been made available to the state and city pharmaceutical organizations. A number of these organizations have taken advantage of this offer and one, the Baltimore Branch of the American Pharmaceutical Association, holds its regular monthly meetings in the building.

The school has continued to supervise the operation of the drug room in the University Hospital and the pharmacy in the free dispensary. The service in these departments has been maintained at a fairly satisfactory level in spite of the fact that physical facilities are inadequate and the salaries paid pharmacists are too low to be attractive to the better qualified practitioners. Salaries of pharmacists have advanced greatly since the beginning of the war and it will be necessary to increase the salaries accordingly for these employees if the school expects to secure and hold them. In this connection it should be pointed out that the work in the drug room at the hospital has expanded greatly since the new addition has been completed and that the original facilities provided for carrying out this work have been outgrown. Additional work space is needed as well as more space for the storage of chemicals and medicinal supplies. There should be installed additional shelving and work tables. In fact, more space should be allotted to the drug room in the hospital and there should be complete re-equipment and re-arrangement of this department.

University Hospital

HAROLD A. SAYLES, *Acting Superintendent*

THE University Hospital is the principal clinical training institution of the Medical School. It has a capacity of 435 beds and 70 bassinets devoted to general medicine, surgery, obstetrics, pediatrics, gynecology, and the various medical and surgical specialties. In addition to furnishing the clinical facilities for the students of the University of Maryland School of Medicine, the hospital offers the services of a modern general hospital to the residents of the State of Maryland. It is mostly dependent upon fees received from the care of private and semi-private patients. A portion of its budget is contributed by the State Legislature in order to support the hospital for the care of under-privileged citizens from all parts of the State. This is one of the hospital's most important functions, next to providing clinical material for the instruction of the medical and nursing students.

Out-patient Department

The Out-patient Department which is housed in the old hospital building had 72,736 visits for the year ending June 30, 1945. For the year ending June 30, 1946, 78,892 patients were treated in this department. The Out-patient Department is composed of 27 clinics. Each of these clinics has as its head a member of the visiting staff of the hospital. The practical instruction of the medical students takes place within these various clinics. The Out-patient Department Committee composed of Dr. George H. Yeager, chairman; Miss Emma Winship, R.N., secretary; Dr. Beverley C. Compton, Dr. A. H. Finkelstein, Dr. Lewis P. Gundry, Dr. D. Frank Kaltreider, Dr. Howard B. Mays, Dr. Allen F. Voshell, and Mr. Harold A. Sayles, ex-officio, have materially strengthened the clinical teaching and the administration. Many improvements and adjustments made during the last two years have increased the efficiency of service to the patients. Some of the adjustments, namely, enlargement of the pharmacy, history room, dental clinic, X-ray, screening room, and social interviewers have contributed to a better service to the indigent of the State of Maryland.

Volunteers

Ever since the hospital was organized, the Woman's Auxiliary Board and the Red Cross during the war have contributed a splendid group of women who have given of their time in making bandages, caring for the sick, maintaining a patients' library and many other fine services. During the war effort this volunteer service increased to approximately 250 public-spirited women. The Red Cross training

program for nurses' aides has contributed materially to the patients' care during this emergency.

Neurosurgery

In 1946 neurosurgery was recognized as a department under general surgery. Our hospital was the recipient of a gift from the Hoffberger Brothers in order to carry on this work. New X-ray equipment and an electro-encephalograph were made available through this fund. This forward move has been very beneficial to the neurosurgical department.

Anesthesiology

On January 1, 1946, the department of anesthesiology was organized with Dr. Fred C. Dye as head. On July 1, 1946, the staff was completed with the head of the department, one assistant, one resident and two assistant residents. The functions of this department include not only the administration of anesthetics, but pre-operative check-ups of all patients and pre-operative medications as well as choosing the type of anesthetic suitable to the surgery to be performed. Post-operative patients are followed closely for any post-anesthetic complications. This department not only administers anesthetics, but supervises anesthetic problems in the departments of medicine, obstetrics, and gynecology. New courses for the teaching of medical students and student nurses have been instituted.

Accident Room

The accident room of the hospital rendered emergency care to 20,209 patients for the year which ended June 30, 1946; 19,246 patients were treated in the accident room in 1945. Because of our hospital's proximity to the large manufacturing and shipping district of the city, our emergency cases average about 55 a day.

Cancer Detection Center

The cancer detection center at University Hospital, sponsored by the American Cancer Society, was opened November 7, 1946. This was the first such center to open in the State of Maryland. Since then other such centers have been opened at Johns Hopkins Hospital, Salisbury, Elkton, Frederick, and Annapolis. The center is operated weekly by a team of four physicians, one nurse, a technician, a secretary, and a volunteer worker. The four physicians are especially trained in cancer work; two in general surgical cancer and the other two in gynecological (women's) cancer.

Outside Obstetrics

In addition to the hospital deliveries, the obstetrical department has maintained a large out-patient clinic. Since June 1, 1917, the

hospital cared for 27,902 women in their homes. During the year ending June 30, 1946, approximately 700 mothers were delivered in their homes. 10,423 visits were made by doctors, nurses, and senior medical students with the home delivery service during the year 1946.

Clinical Laboratory

The department of clinical pathology in the hospital is recognized as one of the best laboratories in the State of Maryland. This past year over 3,000 whole blood transfusions and some 600 plasma transfusions were given. Approximately 36,000 biochemical tests were made, 36,000 serological examinations were performed, 11,000 bacteriological studies, and some 40,000 hematological examinations were done. Our laboratory not only carried on studies in the hospital and dispensary, but also rendered assistance to other institutions in the city and in the counties of Maryland in regard to special diagnostic studies.

Typing Rh

In August of 1945, one of the first centralized Rh typing laboratories in the country was set up by this department. The Rh laboratory is sponsored by the obstetrical and gynecological section of the Baltimore City Medical Society. Since its inception this laboratory has performed tests on over 18,000 expectant mothers. The plan of operation and organization of this laboratory has been adopted as a standard by institutions in other parts of the country.

University Hospital has grown to such an extent that it is impossible to cover the broad scope of its services to the community and state. Expression of appreciation is in order in recognition of the splendid medical staff that has been so loyal, faithful, and helpful in meeting the increased demands of medicine and the care of the sick. The doctors of the visiting staff with privileges in this hospital number approximately 400.

The Executive Committee, composed of heads of all the departments, has been untiring in faithfully serving our hospital. The present Executive Committee is composed of Dr. Beverley C. Compton, chairman; Dr. W. Houston Toulson, vice-chairman; Dr. William M. Seabold, secretary; Dr. Maurice C. Pincoffs, Dr. Arthur M. Shipley, Dr. Louis H. Douglass, Dr. J. Mason Hundley, Jr., Dr. Clyde A. Clapp, Dr. Edward A. Looper, Dr. Walter L. Kilby, Dr. C. Loring Joslin, Dr. Allen F. Voshell, Dr. Fred C. Dye, Dr. George H. Yeager, and Dr. Hugh R. Spencer. Dr. H. Boyd Wylie, Acting Dean, and Mr. Harold A. Sayles, Acting Superintendent, are ex-officio members.

The following table shows the total number of patients admitted to this hospital, including newborn, and the total patient days for the last two years:

Year	Total Patients Admitted	Newborn	Total Patient Days	Newborn
1944-1945.....	12,320	2,141	163,177	19,639
1945-1946.....	11,679	1,845	159,554	16,993

The present demand for beds in University Hospital is beyond comprehension. Over 200 cases are waiting to be admitted now, and no beds are available. The paramount issues are the increased capacity in the nurses' home and a new psychopathic hospital for which plans have been drawn.

School of Nursing and Nursing Service

FLORENCE M. GIPE, A.B., M.S., R.N., *Director*

THE School of Nursing, since the last biennial report, like every other school of nursing in the country, has been seriously affected by the aftermath of the war.

The University of Maryland Hospital, the parent institution, sent two hospitals to help with the recent world wide conflict. These hospitals were staffed with the best that the University could offer. A contribution of this type took many of our most promising nurses whom we had planned to educate as executives and teachers. Few of these nurses returned to their Alma Mater since marriage. Veterans' Hospitals, and Government Issue study attracted many of them. Their loss has been keenly felt in the school and in the clinics. Because of this thwarted growth, it was vitally necessary for all concerned to give her best effort for the protection of the nursing profession. One can safely say that every graduate of the University School of Nursing is doing this. A defeatist's attitude in the school is non-existent.

Our first and most serious problem was to provide a sufficient number of prepared teachers, for the demand twice exceeds the supply. The five year degree program with substantial experience and advanced courses in nursing education has been of invaluable assistance in creating a well prepared faculty. With the assistance of the professors in the other schools of the University, the School of Nursing has planned a definite program of study which compares with the best schools in the Unitd States. A teaching faculty of ten full time nurse instructors, who hold college degrees, has been organized within the past year. The results show most favorably in the improvement of quality in patient care and health teaching.

A Nursing School Committee, as recommended by the National League of Nursing Education, has assisted greatly in the forming of policies and standards so necessary in any sound administration. The Committee on Admission insists upon the same requirments as do all the other schools of the University of Maryland.

In measuring any school's achievement, one first thinks of the library as the most essential tool in a school's equipment. During the past year a new library has been opened for the Nursing School. This library is now a part of the University Libraries, completely under the direction of the Superintendent of University of Maryland Libraries, College Park, Maryland.

The curriculum, which is a standardized one, has been evaluated and refined. Two new affiliations have been established, one with

Sydenham Hospital for Contagious Diseases, the other with the Baltimore City Health Department. An up-to-date teaching program has been set up in the Out-patient Department under the direction of a Public Health Nurse Instructor. Many of our recent graduates are accepting positions in the Public Health field.

The average number of days' illness per student is lower than the average throughout the United States. Our average is 3.5 days per student; nationally, it is 5.5 days. This shows one that our students are getting excellent health teaching. A full time physician and registered nurse supervise this service. Students also have access to the Mental Health Clinic, so that they may receive help with their personal problems.

During the last year we have had to eliminate many students because if their low scholastic ability. Our student census for this reason is lower than it was at the time of the last biennial report.

The present census of the school is as follows:

Seniors	64
Intermediates	38
Juniors	51
Affiliating	10
Administration and Teaching Personnel:	
Director	1
Associate Director	1
Clinical Instructors	4
Nursing	3
Science	2
Public Health	1
Social Science	1

The present aim of the School of Nursing is:

To educate young women who possess the proper qualifications to become professional nurses and who can be developed into executives and health teachers. To carry out this aim the school has certain recommendations:

(1) A new nurses' residence to accommodate at least 300 students.

(2) More and better recreational facilities.

(3) A better prepared faculty, especially supervisors and head nurses in their respective fields, with at least the degree of Master in Nursing.

(4) A school for graduate study in nursing education so that we can prepare nurses as teachers and administrators.

(5) More bedside nurses so that adequate and safe nursing care can be demonstrated in action to our students.

(6) More community contact with other health affiliating agencies.

Nursing Service

Nursing Service in the hospital has been problematic. In the past two years several of our community hospitals have closed an entire floor because of the shortage of nurses. Naturally, this throws an added load on the University Hospital, which already is overcrowded; but whose philosophy has been at all times "do the best that you can—refuse none".

During the past year the Obstetrical Service alone has increased 37.5 per cent, necessitating a staff of sixteen to twenty graduates besides a large number of students and trained auxiliary aides.

In September, 1946, an increase of $400.00 was given to each general staff and supervising nurse. This action helped to stabilize our service to a degree. Our nurses were happier and more contented. We could, however, under our present situation, use at least fifty more general staff nurses. Our nursing service graduate and auxiliary census is as follows:

Associate Directors of Nursing Service	4
Supervisors	22
Head Nurses	18
General Staff	55
Trained Auxiliary Aides	60
Total	159

An average of 35 to 40 special nurses for the most critically ill patients composes the total program of nursing service to the University Hospital.

Our aim for the nursing service to the patient is: better working conditions, such as, salary adjustments and a forty hour week, so that we can improve our nursing care in quality and in quantity.

Department of Military Science and Tactics

H. C. GRISWOLD, Colonel, Infantry

Professor of Military Science and Tactics

AT the beginning of this period the Military Department was at low ebb—the instructional staff consisted of four officers and two enlisted men, and the student group was less than three hundred, all basics. However, with the ending of hostilities and resultant slackening of draft calls, rapid progress has been made toward normal peace-time conditions. The instructional staff has increased to nine officers and seven enlisted men; the student enrollment in R.O.T.C. has increased to approximately seven hundred; an Air Corps Unit has been established; the Signal Corps Unit has been reactivated; the Advanced R.O.T.C. Course leading to a Reserve Commission has been reopened with students enrolled under contract for Infantry, Signal Corps, and Air Corps. Considerable amounts of new material have been made available to the R.O.T.C. by the War Department, including weapons, motor transportation, and communications equipment, which is presently being received. Additional personnel for the care and upkeep of this equipment is also being assigned to this Unit (the 7010th ASU-ROTC) by the War Department. War Department inspections during this period has shown that the accomplishment of military instruction and compliance with directives have been better than satisfactory. As a result of these inspections the University of Maryland Unit has again been given the highest rating —that of "Excellent". This fine showing can largely be attributed to the whole-hearted support and cooperation given to the Unit by Dr. H. C. Byrd and other members of the Administration and faculty.

The principal problem of this Department in the immediate future is one of space. With the installation of an Air Corps Unit the sharing of the Armory facilities with the Men's Physical Educaton Department and Varsity Boxing Squad, and the sharing of the classrooms with other departments, the space available is not adequate for the rapidly expanding Military Department. Additional space outside of the Armory will also be needed to house the motor transportation vehicles.

University Libraries

CARL W. HINTZ, *Director*

INASMUCH as this is the fifth biennial report for which I have been responsible, and my last, I have deemed it permissible to include a most summary review of the outstanding events during my administration, which has covered nine years of the decade during which the University Libraries have had their greatest growth.

In many respects, the period under review has been a more difficult one than any during my term as Director of Libraries. Books were still being printed in small editions due to wartime shortages, and took longer to obtain than formerly. The personnel problem became most acute and, because of its seriousness at present as well as its implications for the future, it has been discussed in detail in a later section of this report.

The Physical Plant

The outstanding improvement at College Park was the installation of fluorescent lighting in the Main Reading Room in the Spring of 1946. This has corrected an unsatisfactory situation of long standing, and has been enthusiastically received by students, faculty members, and library staff. The building with the exception of the Main Reading Room, was painted early in 1946.

The problem of space for housing books and seating students becomes increasingly acute with every year. In my last biennial report I stressed the need for a new building and, in the Spring of 1945, I submitted a memorandum covering points to be considered in planning a new building. This memorandum was thoroughly discussed with the Library Committee before submission to you. Shortly after its receipt, you instructed me to prepare tentative floor plans for a new building. This was done and submitted to you in June, 1945.

The Glenn L. Martin Engineering unit should provide slight and temporary relief from present overcrowding because it will be possible to remove the engineering books and journals from the General Library to the Engineering Library. It is unfortunate in many respects, that present plans for the new unit are making provision for individual departmental libraries instead of a group library serving the entire physical and applied sciences, with the exception of agriculture and home economics. I have discussed this problem with individual department heads, but at no stage in the planning was provision made for a general conference in which the library aspects of the situation could have been presented.

In Baltimore a sound-proof ceiling and new lighting were installed in the Dental-Pharmacy Library. The Medical Library has been completely redecorated and modern lighting installed. In both cases, the results have been most gratifying.

The most pressing problem in Baltimore is that of space for the Dental-Pharmacy book collections. The stacks have already reached the saturation point and no satisfactory solution for expansion, without major building changes, seems possible. From the standpoint of improvement of service, economy of administration, and prevention of duplication in the book collection, the possibility of a central library building to serve the Schools of Dentistry, Medicine, and Pharmacy, is worth consideration.

The Book Collection

Acquisitions

The number of volumes acquired during the biennium totaled 18,802. Table I presents figures by library units.

TABLE I. VOLUMES ADDED, 1944-45—1945-46

	1944–45	1945–46	Total
College Park—General Library	7,431	7,130	14,561
Baltimore—Dentistry	457	484	941
Law	345	311	656
Medicine	969	1,128	2,097
Pharmacy	257	290	547
Total—All libraries	9,459	9,343	18,802

As a result of the introduction of the American Civilization Program at College Park considerable emphasis has been placed upon the acquisition of Americana. The term Americana is used here not so much in the sense of "rarity" but rather to cover books and journals which are a necessary adjunct to the study and teaching of American history, government, literature and social institutions. A most valuable addition in this respect was the purchase of two groups of material on microfilm—the American Periodical Series and the American Culture Series. The first of these includes the contents of all known and located American periodicals published prior to 1800. The second group, is a basic collection of 250 Americana made up of carefully selected items, beginning with the Columbus Letter and ending with books of the year 1800. Most of this material is unobtainable in its original form, or, if obtainable, exceedingly costly.

We have continued to place emphasis upon the acquisition of journals at both College Park and Baltimore. Many incomplete sets have

been filled in, either fully or in part, and runs of new titles added, such as *Hunt's Merchant's Magazine, New England Quarterly, Mathematisches Zentralblatt, American Journal of Physics,* the *Southern Literary Messenger,* and many others. These are the materials which go into the building of strong libraries. It would be unfortunate if the program suffered interruption, either at College Park or in Baltimore, through a decrease in book funds.

The Dental Library has continued to add to its already excellent historical collection. Numbered among its recent acquisitions is a 1497 edition of Celsus' *De Medicina,* the first incunabulum acquired by any division of the University Libraries.

Stock

On June 30, 1946, volumes available in the University Libraries, after adjustments caused by the withdrawal of worn out and superseded books, totaled 192,018. This represents an increase of 17,606 volumes, or slightly more than ten percent, over the last biennial statement. Table II presents holdings by libraries.

TABLE II. VOLUMES IN LIBRARIES, JUNE 30, 1946

College Park—General Library	124,895
Baltimore—Dentistry	12,031
Law	19,234
Medicine	25,531
Pharmacy	10,327
Total—All libraries	192,018

The book stock is, in the main, in good physical condition due to the sustained program of binding and repairing which has been followed. One outstanding project begun during the past year was that of restoring the old and rare volumes in the Crawford Collection, Medical Library. The Crawford Collection, acquired from Dr. John Crawford, formed the nucleus of the Medical Library when it was formed in 1813. It is hoped that sufficient funds will be made available to carry this project through to completion within the next three or four years.

Classification and Cataloging

College Park

The completion of the Catalog Department *Manual of Procedures* in June, 1945, is worth recording as an outstanding accomplishment of the Department head, Mrs. Getchell. Most of the work was done by Mrs. Getchell on her own time, as the pressure of daily business

was too great to permit it to be done during regular working hours. The *Manual* codifies our practices and procedures, thereby insuring consistency of policy and economy of effort.

In spite of the severe handicap of a shortage of staff the Catalog Department has continued at a high level of performance. The quantity of work performed will compare favorably with that of any other University library. Detailed statistics are given in Table III.

As in the past the Catalog Department has continued the work of making minor repairs to books. During the biennium 928 pieces were handled.

TABLE III. CATALOG DEPARTMENT STATISTICS—COLLEGE PARK

Year	Number of Volumes	Cards Made for Catalog	Cards Made for Shelflist*
Classification and Cataloging:			
1944-45	6,181	12,771	2,643
1945-46	7,269	16,605	3,487
Total	13,450	29,376	6,130
Reclassification and Recataloging:			
1944-45	865	2,514	700
1945-46	984	2,648	424
Total	1,849	5,162	1,124
Grand Total	15,299	34,538	7,254

* Main Shelflist only. Does not include cards made for other files. A detailed statement will be found in the Catalog Department Report to the Director of Libraries.

Baltimore

The work of classification and cataloging in Baltimore has proceeded as satisfactorily as could be expected, considering the shortage of personnel. Statistics are given in Table IV.

TABLE IV. CLASSIFICATION AND CATALOGING—BALTIMORE

	1944–45	1945–46
Classification and Cataloging:		
Dentistry Library	†	355
Law Library	345	311
Medical Library	650	834
Pharmacy Library	†	246
Total—All libraries	995	1,746
Reclassification and Recataloging:		
Dentistry Library	†	60
Law Library	...	....
Medical Library	1,459	934
Pharmacy Library	†	4
Total—All libraries	1,459	998
Grand Total	2,454	2,744

† The position of cataloger for the Dental-Pharmacy Library has been vacant since November, 1944, hence the lack of statistics covering this phase of the work. During 1945-46, the urgent material was processed by the Medical Library Cataloger assigned for that purpose a few hours each week.

The complete reclassification of the Medical Library, begun in December, 1942, continues to make good progress. The bulk of the books are now classified according to the Library of Congress Classification Scheme and work is about to begin on the periodicals.

Use of the Libraries

A reorganization of the Service Division of the Library at College Park has been under consideration for some time and, in the fall of 1945, the Reference and Loan Department was divided into two departments: namely, The Reference Department and the Loan Department. This permits a clearer differentiation in duties and is designed to place more emphasis on the reference functions of the Library. Mrs. Hobson was appointed November 19, 1945, as Loan Librarian and Miss Urban, formerly Assistant Reference and Loan Librarian, assumed direction of the Reference Department on the same date.

Loan Department

The total of 207,641 recorded loans for the biennium represents a sharp increase over the number for the preceding biennium (1942-43—1943-44, 187,637 loans) but is still below the peak of 237,583 reached in 1940-41—1941-42. The approach to a normal prewar enrollment at College Park in the second semester of 1945-46 is reflected in the use of the Library, and serves as a sharp reminder of the problem to be faced during 1946-47, when an enrollment of 5,000 or more, is contemplated. Table V presents statistics of loans by libraries.

TABLE V. RECORDED LOANS—ALL TYPES

	1944–45	1945–46	Total
College Park			
General Library	75,115	97,529	172,644
Baltimore			
Dentistry Library	10,989	8,492	19,481
Law Library	For reference use only—No loans		
Medical Library	4,199	4,583	8,782
Pharmacy Library	3,660	3,074	6,734
Total—All libraries	93,963	113,678	207,641

It will be noted that the term "Recorded Loans" has been used above. In other words, no statistics are included for material used from the Reference Collection or by graduate students and faculty members in the stacks at College Park. Similarly, in Baltimore, students have always had access to material for use in the Medical Library without the formality of recording it. Due to a change in policy during the biennium, students in the Dental and Pharmacy Schools now have access to the stacks, which results in a decrease in the number of recorded loans.

As has been pointed out in previous reports, statistics of this kind are by no means a complete measure of the service which a library renders. They do serve to show, however, that a large volume of physical activity occurs in the normal operation of a library. In making the 207,641 loans, for instance, that number of books had to be taken from the shelves, charged out, discharged upon return, and replaced upon the shelves—a total of 830,564 operations:

Reference Department

As a result of the changes referred to in the previous section, Reference Desk service has been maintained on a more definite schedule than formerly. Unfortunately, lack of staff has prevented more than a 9 A. M. to 12 noon and 2 P. M. to 5 P. M. schedule at this point of service.

During the year 1555 general questions and 105 search questions were answered. By definition, a general question is one which can be answered in a few minutes from a readily available source; a search question is one which requires extended search ranging from fifteen minutes upwards.

In addition to assisting users of the Library to find material the Reference Department is responsible for the following:

1. Interlibrary loans.
2. Checking in U. S. Government publications.
3. Checking in Agricultural Experiment Station publications.
4. Newspaper clipping service.
5. Pamphlet collection.
6. Exhibits.
7. Maps.

Lack of staff has prevented any sustained attack upon the handling of maps. These will present a serious problem due to lack of space and equipment for housing and use. Under the terms of our agreement with the Army Map Service we are scheduled to receive some 25,000 maps within the next few years. Most librarians estimate it will require the service of one full time staff member to handle them.

The Staff

Personnel

The past biennium has witnessed a greater turnover in personnel than at any time during the past decade, if not, indeed, at any time during the recent history of the University. Decreased enrollment in library schools has resulted in limiting the supply of trained librarians. Consequently, we have faced stiff competition in attempting to secure competent replacements. The Standard Salary Schedule and Merit System limitations on annual leave have often placed us at a disadvantage in meeting the competition offered by the Federal Government and other academic libraries.

The situation can readily be grasped from a simple listing of resignations and appointments during the period under review:

College Park—Resignations—Professional Staff

Miss Ruth Hewlett—Resigned August 31, 1944, to accept a position with the Federal Government.

Miss Helen Armstrong—Resigned July 20, 1945, to accept a position with the District of Columbia Public Library.

Miss Elizabeth Gardner—Resigned August 8, 1945, to accept a position with the Library of Congress.

Mr. Harold O'Neal—Resigned September 15, 1945, to become Assistant Librarian, U. S. Merchant Marine Academy.

Miss Margery Barr—Resigned February 11, 1946.

Miss Ruth Seabolt—Resigned March 21, 1946, to become Reference Librarian, Greensboro (North Carolina) Public Library.

College Park—Resignations—Sub-Professional and Clerical Staff

Miss Fay Friedman—Resigned September 30, 1944.

Mrs. McCormick—Resigned December 31, 1944.

Miss Annie Topping—Resigned February 3, 1945.

Miss Virginia Phillips—Resigned September 15, 1945, to enter Library School.

Mrs. Alice Blackburn—Resigned February 28, 1945.

Mrs. Dorothy Hermann—Resigned June 6, 1946.

College Park—Appointments—Professional Staff

Mrs. Adelheid Ladewig—Appointed Assistant Cataloger (Assistant Librarian) July 1, 1945. Mrs. Ladewig holds the Ph.D. degree from a German university and is a graduate of the School of Library Science, Oklahoma University.

Miss Margery Barr—Appointed Assistant, Reference and Loan Department, August 6, 1945. Miss Barr graduated from George Peabody College for Teachers Library School.

Mr. Emerson Jacob—Appointed Instructor in Library Sciences and Order Librarian, September 16, 1945. Resigned November 17, 1945. Re-appointed June 1, 1946. Mr. Jacob holds the A.B. degree from Mount Union College and the B.S.L.S. from Western Reserve University.

Mrs. Jane B. Hobson—Appointed Loan Librarian (Assistant Librarian) November 19, 1945. Mrs. Hobson is a graduate of Mount Holyoke and the Columbia University School of Library Service.

Mr. Howard Rovelstad—Returned from military leave of absence and appointed Assistant Professor of Library Science, June 19, 1946.

College Park—Appointments—Sub-Professional and Clerical Staff

Miss Fay Friedman—Appointed Junior Stenographer, June 16, 1944.

Mrs. McCormick—Appointed Junior Stenographer, October 23, 1944.

Miss Annie Topping—Appointed Junior Stenographer, January 15, 1945.

Mrs. Alice Blackburn—Appointed Junior Stenographer, October 1, 1945.

Mrs. Dorothy Hermann—Appointed Junior Assistant Librarian (part-time), December 1, 1945.

Miss Elizabeth Banisch—Appointed Junior Assistant Librarian, June 24, 1946.

Baltimore—Resignations—Professional Staff

Mrs. Ann L. Clark—Resigned November 1, 1944, due to ill health.

Baltimore—Resignations—Sub-Professional and Clerical Staff

Miss Mary Scarpulla—Resigned April 30, 1945, to accept a better position.

Baltimore—Appointments—Professional Staff

Miss Hilda Moore—Appointed Assistant Librarian, Pharmacy Library, August 1, 1944. Miss Moore is a graduate of the Emory University Library School.

Mrs. Ida M. Robinson—Appointed Librarian, Dental-Medical-Pharmacy Library, November 16, 1944. Mrs. Robinson is a graduate of Cornell University and Columbia University School of Library Service.

Baltimore—Appointments—Sub-Professional and Clerical Staff

Miss Charlotte Jubb—Appointed Junior Typist, May, 1945 (part-time); July 1, 1945 (full-time).

The sudden and untimely death of Miss Thelma Wiles, Librarian, Dental-Medical-Pharmacy Library, on July 4, 1944, is recorded here with sincere regret. Miss Wiles first joined the library staff at College Park in January, 1938, and gave unstintingly of her service to the University.

Professional Activities

One measure of a library staff's alertness is the participation of its members in professional activities, through service on boards and committees, and as officers of professional associations. A brief survey follows:

Mrs. Getchell was elected Chairman of the Maryland, Virginia, and District of Columbia Regional Group of Catalogers and Classifiers for a two-year term at the annual meeting in Washington, January 20, 1945. Miss Seabolt has served as county reporter for *Between Librarians*, the official journal of the Maryland Library Association. Miss Moore is also a member of the staff of *Between Librarians*. Mrs. Hobson was elected Chairman of the College and University Group of Special Libraries Association, District of Columbia Chapter.

The writer continued to serve on the State-Wide Library Survey Committee, Maryland State Planning Commission, until its work was completed with the publication of the Committee's report, *The Free Public Library in Maryland*, in December, 1944.* It is gratifying to note that the 1945 General Assembly enacted legislation implementing many of the Committee's recommendations. I later served as

* Publication No. 42. Maryland State Planning Commission. December, 1944.

consultant to the Prince George's County Memorial Library Committee. As a result of the work of the latter committee the county commissioners have voted funds for a county library beginning 1946-47. I was also appointed for a two-year term on the American Library Association's Committee on Book Acquisitions, and continued to serve as Secretary of the University Library Section of the Association of College and Research Libraries.

Publications of the staff were as follows:

Miss Wilson—"The Evaluation of Medical Book Reviewing Journals." *Medical Library Association Bulletin.* 1945.

Mrs. Robinson—"The Library: An Adjunct to Teaching." *Journal of the American College of Dentists."* Pages 208-211. September, 1945.

Mr. Hintz—"Evolution of the University of Maryland Libraries." *College and Research Libraries.* Pages 8-13. December, 1944.

Mr. Hintz—"The Recruiting, Training, and Management of Librarians." *Special Libraries.* Pages 320-328. October, 1945.

Mr. Hintz—Review of Jacques Barzun "The Teacher in America." *Library Quarterly.* Pages 73-74. January, 1946.

Mr. Hintz—"The Place of College and Reference Library Service at A. L. A. Headquarters: A Symposium; University Libraries." *College and Research Libraries.* Pages 172-173. April, 1946.

Memberships and Representation at Meetings and Conferences

Memberships have been maintained by various members of the staff in local, state, and national library organizations. The University Libraries have been represented by one or more members of the staff at the following:

Maryland Library Association, Baltimore, October 21, 1944.

Maryland, Virginia, and District of Columbia Regional Group of Catalogers and Classifiers, Washington, January 20, 1945.

Maryland Library Association, Baltimore, May 12, 1945.

Maryland Library Association, Annapolis, October 20, 1945.

Maryland, Virginia, and District of Columbia Regional Group of Catalogers and Classifiers, Richmond, Virginia, November 10, 1945.

Eastern College Librarians Conference, New York, November 24, 1945.

American Library Association Midwinter Conference, Chicago, December 27-30, 1945.

Special Libraries Association, East-West Institute, Washington, January 12, 1946.

Medical Library Association, New Haven, Connecticut, March 25-27, 1946.

Inter-American Library Conference, Washington, March 30, 1946.

Maryland Library Association, Frederick, May 18, 1946.

American Library Association Annual Conference, Buffalo, New York, June 16-22, 1946.

Various meetings of the Baltimore Chapter, Special Libraries Association.

Various meetings of the Washington Chapter, Special Libraries Association.

Other Activities

Mrs. Getchell gave two talks to the Cataloging Class of the Catholic University of America's Department of Library Science. Miss Gardner addressed the Reference Class of the same Department once, and also gave a program of book reviews to the College Park Progress Club on one occasion.

Within the University I have talked on the Library to classes in the College of Education on four separate occasions and to the Home Economics freshmen once. These attempts to relate the Library to the instructional program are productive and might well be expanded. Outside the University I have appeared before the Enoch Pratt Free Library Training Class, the Howard County P. T. A., the College Park P. T. A., the Laurel P. T. A., and the Catholic University Department of Library Science Assembly.

Ten-Year Summary Review

The most striking development during this period has been the growth in size and strength of the book collection at College Park. The number of volumes increased from some 60,000 volumes in 1936 to nearly 125,000 volumes in 1946. Regular budgetary expenditures for books and periodicals have increased in a satisfactory manner; those for staff have, unfortunately, not kept step. The building, formerly shared with various administrative offices, is now devoted in its entirety to library purposes.

In Baltimore the most significant development has been the centralization of administrative activities and closer cooperation between the Dentistry-Medical-Pharmacy Libraries. The book collections have increased systematically, library quarters improved, and the staff enlarged. The Medical Library, in particular, has made great strides and stands on the threshold of increasing usefulness to teaching and research.

The most pressing needs form a constantly recurring theme which has been presented in every biennial report and every annual budget

estimate; namely, a larger staff and more space for books and readers. The necessity for a larger staff cannot be too highly stressed.

Acknowledgments

It is with some regret that I come to the close of this report. My thanks are due all members of the University's Administrative Staff for their helpfulness and cooperation in forwarding the program of library service. I have particularly appreciated the confidence and support which you, Sir, have given me in carrying out my duties.

My especial thanks are due the members of the Library staff for their loyal and active support at all times. I wish to make acknowledgment of my debt to them a matter of record in this report.

Admissions Office

EDGAR F. LONG, *Director of Admissions*

SINCE 1945 the work of the Admissions Office has been marked by two developments which are noteworthy.

In the summer of 1945, admission of non-recommended students through examination was abandoned. For the ten-year period immediately prior to this date approximately 2,000 had been admitted in this manner. The change of policy was decided upon because but 5 per cent of these students persisted to a degree.

The positive aspect of this policy is to leave the way open to all students who are rejected to gain admission later by spending an additional year in successful preparation in a secondary school.

At least two desirable effects have resulted from denying admission of students with poor high school records. In the public schools, officials have found that knowledge of what has been done has stimulated many students to do better work. At the University the effect has been positive in lowering the rate of withdrawal and failure.

The other development has been the divising of a method of dealing with veteran applicants which is fair to them and at the same time is reasonably effective in the maintenance of admission requirements which select the greatest possible number who will be successful students.

Large numbers of veterans seeking admission have poor high school records or have not graduated. Non-graduates are referred to the State Department of Education where a high school equivalent examination has been administered since 1941. Already about 100 have qualified for admission through the High School Equivalence Certificate. Numbers have combined the state examination

with credit earned at a Veterans' School to secure credit needed for a diploma.

Veterans with low high school averages are given an entrance examination. Those who pass are admitted, and are as a group doing surprisingly well. Evidence is yet insufficient, but it now appears that 85 to 90 per cent of them will be average or better students.

Those who fail the test or parts of it are not rejected, but advised to enter a veterans' school for further work. A very considerable number of these do very satisfactory review and so qualify for admission.

Office Operation

The very large numbers of veterans seeking admission during the past year created a load for which the office was not ready, but with increased staff, expanded files and other needed equipment in place, the work at College Park is now operated so that the normal time for handling an application is 48 hours or less.

The Baltimore office is not yet able to handle work as promptly as desirable, but plans have been laid so that this should be possible in the near future.

The development anticipated during the ensuing year is enlargement of guidance—counseling for entering students. With the assistance of the Department of Psychology it is hoped that two initial benefits will result:

1. The assembling of test and personal data from high schools at the time of entrance for use in starting advisement on the campus with much needed data already assembled.

2. Guidance of applicants in the choice of curricula so as to enable them to undertake what they are best fitted to do. This should assist in relieving at least two congested areas—Engineering and Pre-Professional curriculue.

Office of the Registrar

ALMA H. PREINKERT, *Registrar*

TABLES giving information concerning the enrollment of students, including extension and short courses; the degrees conferred and certificates awarded; and the instructional staff follow:

ENROLLMENT OF STUDENTS

COLLEGE PARK

Resident Collegiate Courses:	(Four Quarters)			(Two Semesters)		
Academic Year	Men	Women	T'tl.	Men	Women	T'tal.
	1944–45			1945–46		
College of Agriculture	75	28	103	239	24	263
College of Arts and Sciences	263	768	1031	572	792	1364
College of Business and Public Administration	127	83	210	424	109	533
College of Education	58	194	252	125	300	425
College of Engineering	203	4	207	646	5	651
College of Home Economics	...	308	308	1	312	313
Graduate School	146	78	224	510	117	627
Army Specialized Training Program	262	...	262	...	...	...
Total Academic Yr., College Park, Less Duplications.	1133	1463	2596	2517	1659	4176
Short Summer Session	22	109	131	141	324	465
Total Resident Collegiate, College Park, Less Duplications	1151	1542	2693	2573	1813	4386
Extension Courses:						
Engineering Defense	2012	233	2245	...	...	...
Fire Service	658	...	659	728	...	728
Mining	60	...	60	81	...	81

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

BALTIMORE

	1944–45	1945–46
Arts and Sciences	7	5
Dentistry	61	56
Education	35	53
Law	14	16
Medicine	303	378
Nursing	42	60
Pharmacy	22	16
Total Baltimore, Less Duplications	427	508
Grand Total, College Park and Baltimore, Less Duplications	771	853

Short Courses and Conferences:

Conference on Professional Relations	...	...	...	35	90	125
Dairy Field Men's Short Course	66	...	66	...	...	...
Dairy Herd Improvement Assoc. Supervisors Short Courses	...	...	...	34	1	35
Dairy Inspectors and Tech. Conference	...	...	...	135	1	136
Florists' Short Course	...	...	...	81	4	85
Junior Leadership Trng. School	40	52	92	46	69	115
League of Women Voters—Voters' School	...	...	...	...	100	100
Md. Congress of Parents and Teachers	11	100	111	16	127	143
Md. 4-H Club Achievement Day	500	700	1200	1000	800	1800
Md. Holly Society	44	14	58	...	...	...
Ornamental Garden School	...	...	...	3	248	251
Rural Women's Short Course	...	...	...	...	1200	1200
Sawmill Operators' Conference	97	...	97	...	...	...
Tri-State Food Plant Conference and Canners' and Fieldman's School	...	...	...	143	2	145
Total Short Courses and Conferences	758	866	1624	1493	2642	4135
Total All Courses, College Park, Less Duplications	4639	2641	7280	4875	4455	9330

ENROLLMENT OF STUDENTS

BALTIMORE

Resident Courses: Academic Year	1944–45 Men	1944–45 Women	1944–45 T'tl.	1945–46 Men	1945–46 Women	1945–46 T'tal.
School of Dentistry	397	1	398	243	1	244
School of Law	95	18	113	189	20	209
School of Medicine	445	32	477	361	22	383
School of Nursing	...	247	247	...	244	244
School of Pharmacy	70	15	85	80	23	103
College of Education	187	223	410	430	156	586
Graduate School	41	24	65	103	43	146
Total Academic Year, Baltimore, Less Duplications	1215	555	1770	1400	507	1907
Grand Total, All Courses, Less Duplications, College Park and Baltimore	5839	3180	9019	6258	4949	11,207

DEGREES AND CERTIFICATES

	1944–45			1945–46			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Honorary Degrees	6	2	8	6	...	6	12	2	14
Honorary Certificates of Merit in Agriculture	4	1	5	4	...	4	8	1	9
COLLEGE PARK									
College of Agriculture, B.S.	7	5	12	9	6	15	16	11	27
College of Arts and Sciences, B.A.	4	75	79	10	70	80	14	145	159
B.S.	20	27	47	11	17	28	31	44	75
College of Business and Public Administration, B.S.	4	8	12	4	8	12	8	16	24
College of Education, B.A.	...	10	10	...	16	16	...	26	26
B.S.	1	23	24	10	44	54	11	67	78
College of Engineering, B.S.	11	...	11	23	...	23	34	...	34
College of Home Economics, B.S.	...	49	49	...	51	51	...	100	100
Total Bachelors' Degrees:									
Bachelor of Arts	4	85	89	10	86	96	14	171	185
Bachelor of Science	43	112	155	57	126	183	100	238	338
Total	47	197	244	67	212	279	114	409	523

Graduate School:									
Doctor of Philosophy	11	1	12	10	2	12	21	3	24
Master of Arts	3	11	14	2	3	5	5	14	19
Master of Science	6	6	12	4	5	9	10	11	21
Master of Education	4	9	13	6	2	8	10	11	21
Total, Graduate School	24	27	51	22	12	34	46	39	85
Total Degrees in Course at College Park	71	224	295	89	224	313	160	448	608

BALTIMORE

	1944–45			1945–46			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
School of Dentistry, D.D.S.	134	...	134	66	...	66	200	...	200
School of Law, LL.B.	16	4	20	19	6	25	35	10	45
School of Medicine, M.D.	171	11	182	94	3	97	265	14	279
School of Nursing, Grad. in Nursing	...	50	50	...	48	48	...	98	98
School of Pharmacy, B.S. in Pharmacy	13	2	15	8	3	11	21	5	26
Total Degrees in Course at Baltimore	335	67	402	187	60	247	522	127	649
Grand Total, All Degrees and Certificates, College Park and Baltimore	416	294	710	286	284	570	702	578	1280

MEMBERS OF STAFF ENGAGED IN INSTRUCTION
COLLEGE PARK

1944-45

	Agriculture	Arts and Sciences	Business and Public Administration	Education	Engineering	Home Economics	Library Staff	Physical Education	Military	Short Summer Sessions Specials	Total, Less Duplications
Professors	16	20	8	3	5	3	1	2	..	..	58
Lecturers	..	4	..	..	2	..	..	..	..	..	6
Associate Professors	13	10	2	1	6	..	..	..	..	..	32
Assistant Professors	7	26	3	1	3	5	..	4	2	..	51
Instructors	1	41	1	3	3	7	2	5	3	..	66
Assistants	..	5	..	..	..	..	..	3	..	..	8
Graduate Assistants	3	11	..	..	..	..	..	..	..	..	14
Fellows	..	2	..	1	..	..	..	..	..	..	3
Undergrad. Assistants	..	6	..	..	..	..	..	1	..	..	7
Critic Teachers	..	..	..	22	..	..	..	..	..	..	22
Extension	..	..	..	..	96	..	..	..	..	..	96
Total	40	125	14	31	115	15	3	15	5	4	354

1945-46

	Agriculture	Arts and Sciences	Business and Public Administration	Education	Engineering	Home Economics	Library Staff	Physical Education	Military	Short Summer Sessions Specials	Total, Less Duplications
Professors	17	23	8	3	3	3	1	3	..	..	61
Lecturers	2	5	..	1	6	..	..	..	..	..	14
Associate Professors	14	17	5	2	6	1	..	..	..	..	45
Assistant Professors	6	26	2	1	4	5	..	5	4	..	53
Instructors	3	38	2	8	4	7	1	8	3	..	74
Assistants	1	11	..	..	2	..	..	..	..	..	14
Graduate Assistants	2	33	..	1	..	..	..	..	..	..	36
Fellows	..	1	..	..	..	..	..	..	..	..	1
Undergrad. Assistants	..	5	..	..	..	..	..	1	..	..	6
Critic Teachers	..	..	..	21	..	..	..	..	..	..	21
Extension	..	..	..	..	21	..	..	..	..	..	21
Total	45	159	17	37	46	16	2	17	7	11	353

Office of the Dean of Women

ADELE STAMP, *Dean of Women*

THE year 1944-45 found us still at war, so our program of necessity until after the surrender of Japan in September, 1945, was concerned chiefly with the war effort and the problems incident to the war. We continued the quarter system at the University, so that our students could complete their college career as quickly as possible and take their place in the war effort.

The war has continued to affect our campus and the lives of our young people. On our campus an increasing number of students have withdrawn to enter military service. Many of our former campus leaders have been killed. This has brought the war very close to our doors and has made our students realize that the University too is at war.

War brings in its wake tragedy and sorrow, complicated by difficult adjustments and problems. This has meant a greatly increased load in counselling, as the students have come to us in ever increasing numbers for help and guidance.

We need, as never before, trained counsellors with experience, tact, sympathy, courage and understanding in dealing with the problems of youth in this war and postwar period.

Counselling and Personnel

The most important work of this department is that of the counselling and guiding of the individual student. To that end individual conferences are held with all new students which includes transfer students as well as freshmen. Interviews are also held with students having financial and scholastic difficulties, as well as those having problems with extra curricula activities and social adjustment. This department works closely with the department of tests and measurements, and with the individual faculty members concerning the student's scholastic difficulties. In addition, conferences are held with senior women. Whereas some come for only one interview, we have a great many who spend literally hours in conference session for help and direction in their problems.

A well rounded guidance program should include interviews with each student each year. This was possible when the women students numbered one-half of our present enrollment. With the present enrollment of women students it is impossible for three people to handle the counselling of all, since all three have many other duties, and counselling is only a part of their load. In order to render the kind of service we should give to women students we need the addition of a full-time assistant dean and two counsellors.

The personnel program should concern all aspects of the student. We must consider not only academic knowledge, but physical health, social adjustment, ability to make and keep friends, emotional stability and all other personal qualities that condition the kind of life she will live, and the contribution she will make to society.

We should include in a well rounded personnel program not only educational guidance, intelligence testing, selection and admission of students, but also health programs, social programs, counselling, religious programs, housing programs, and extra curricula activities. All should be coordinated. There should be one total integrated program with a common viewpoint.

Housing

The fall of 1944 saw a great increase in the enrollment of women. We had approximately 1100 in 1943-44, and jumped to 1463 in 1944-45, and to 1659 in 1945-46. With the withdrawal of A.S.T.P. from our campus, and with all able-bodied men of 18 entering military service we had very few men left, only the deferred group and very young boys. We became practically a woman's college. Margaret Brent, a woman's dormitory loaned to the Army to house the A.S.T.P., was returned to us. We took over three men's dormitories in 1944-45, namely, Calvert Hall, Dormitory C, and Dormitory F. In 1945-46 we also took over for the use of women students an additional dormitory formerly used by U.N.R.R.A. Dormitory C and Dormitory F were in the process of construction, and Calvert Hall had to be completely reconditioned. Due to the war these buildings were not ready by the opening of school. There was no other place to put the women students and so we lived for weeks with carpenters, plumbers, and painters working in these buildings. Much of our furniture was late in arriving due to war transportation difficulties. A car load of beds was lost between Philadelphia and College Park, and several days elapsed before it was found. In consequence, a large part of the time and effort of this department was spent in pacifying students and parents. By Thanksgiving we were comfortably settled, and although we were very, very crowded the morale was excellent and the students happy and contented.

This department also handled housing for the summer school session for teachers of six weeks, as well as the summer term for students of three months. Off-campus houses for women students are inspected and approved by this department. Complete responsibility for the housing of women students is assumed by this department.

With the surrender of Japan and the promise of a GI Bill of Rights it seems safe to anticipate a great increase in enrollment in 1946-47. The men's dormitories which have been loaned to us will have to be returned for veterans' use. The grave problem we will have to face

is where to house the women students. The need for additional dormitories for women is acute. We cannot deny education to daughters and taxpayers of Maryland, and we must provide housing for them. We need a minimum of five dormitories to take care of our women students, since we will return four to the men, and we will have an increased enrollment of women due to the GI Bill.

Social Program, Student Organizations

This department believes that the students gain valuable experience in the development of leadership through students organizations. They are warned, however, not to assume so much responsibility as club officers that their health and scholastic records suffer.

The social program on the campus has been greatly simplified during the war period. With the end of the war in 1945, the boys returned to the campus. This meant more normal campus life, and in consequence, greater social activity. Social programs were now planned for both boys and girls, instead of having the emphasis on girls alone as before. This department has charge of the social program of the campus during the summer session for teachers, the summer term for students, as well as the winter program. In order to give the women students as normal a life as possible during the war period girls were chaperoned by this department to nearby U.S.O. centers.

The work of the women's student organizations for this biennium on the whole has been very satisfactory. The Women's League has effectively and competently handled problems in connection with student life. The scope of this group includes dormitories, sororities and off-campus houses. The day students also have representation on the Executive Council of the League. Mortar Board, Alpha Lambda Delta (Freshman Honor Society), Women's Recreation Association, Panhellenic, Victory Council, Red Cross Chapter, Day Dodgers Club have functioned effectively during the biennium and have made a real contribution to campus life. We were very pleased when the American National Red Cross selected the University of Maryland College Unit Chapter as a model chapter. To our campus were brought visiting dignitaries from South and Central America to observe how a College Unit Chapter of the American Red Cross should function.

Cultural Program

As a result of a request on the part of the students for a cultural program, a committee of faculty and students was set up to work out a suitable program. There were 29 events, including such speakers as Congressman Judd, Dr. Sockman, Madame Chu, and concert artists such as Mona Paulee, the Don Cossack Singers, and the American Ballad Singers. The success with which it was met was very grati-

fying. A member of this department was largely responsible for the details of this program. Her responsibilities included all correspondence, signing of the contracts, arranging a time and place, publicity, checking on the sale of tickets, checking on Coliseum as to stage, chairs, and decorations, and driving various speakers and artists to and from the University.

Religion

On our campus we have an interdenominational religious committee which embraces all faiths. This committee is made up of student pastors, a priest and a rabbi, a student representative from each religious club, and several faculty members. A member of this department is chairman of the committee. The work of this committee has included vesper services, religious life meetings, and receptions for all new students at the beginning of the term, the special V-E Day service, and special Christmas programs and pageants. The students have full participation in all the activities of the religious life committee.

Public Relations

Among the duties of the Department of the Dean of Women is that of interpreting the University to the women of the State, representing women's interests officially to the faculty, administration, and to the public generally. To that end members of this department spoke to women's clubs, to service organizations, to high schools, to faculty clubs, to educational meetings, to rallies and war bond drives. The head of this department serves on boards and committees of such organizations as American Association of University Women, League of Women Voters, Feredation of Women's Clubs, National Alpha Lambda Delta (Freshman Honor Society), W.A.C. Advisory Committee, and Alpha Kappa Delta (National Sociological Honor Society).

Committee Participation: Membership on University Committees

The Dean of Women has served on the following committees during 1944-46: General Administrative Board, Student Life, Scholarship and Student Aid, Publications, Public Functions and Non-Resident Lecturers, Educational Guidance and Adjustment, Veterans Programs, Homecoming, Freshmen Week, Community War Fund, and Athletics and Physical Education.

Membership in Professional and Service Organizations

National Association of Deans of Women, Member of Executive Committee; Regional Association of Deans of Women; American Association of University Women Washington Program Committee; American Association of University Professors; Maryland League

of Women Voters, board member; Alpha Lambda Delta, National Treasurer; Delta Kappa Gamma; and Alpha Kappa Delta.

Membership in Campus Organizations

The Dean of Women has served and acted as faculty adviser on committees listed below—this offers an opportunity to work with students in projects which creates a relationship of friendliness and understanding between the office and the student body: May Day; Women's Recreation Association; Alpha Lambda Delta; Mortar Board; Women's League; Student Board, Panhellenic Council; Victory Council; and American Red Cross College Unit Chapter.

Recommendations and Needs

1. Three additional members of the staff. An assistant in charge of all freshmen women, and two counsellors.
2. Five new dormitories.
3. That a Student Activity Building be built at the earliest possible time.
4. That a Chapel be built on our campus as a memorial to our students who served in the Second World War, as soon as funds are available.

Staff Personnel

Dean of Women:
Adele Hagner Stamp

Assistant Deans of Women:
Marian Johnson, Director of Housing
Rosalie Leslie, Director of Social Activities

Directors of Residence Halls:

Dormitories—
Miss Mary R. Corse, Margaret Brent Hall
Mrs. Clara Culpepper, Dormitory F
Miss Lenna Gross, Ann Arundel Hall
Mrs. Elizabeth Pyle-Jones, Dormitory C
Mrs. Henrietta Shearer, Dormitory E
Mrs. Alta White, Ann Arundel Hall

Sororities —
Mrs. L. Allan, Alpha Delta Pi
Mrs. Eleanor Brehme, Alpha Omicron Pi
Mrs. Nell Butcher, Pi Beta Phi
Mrs. Roy Hensel, Gamma Phi Beta
Mrs. John Hill, Kappa Kappa Gamma
Mrs. Charles Howe, Delta Delta Delta
Mrs. M. G. Howell, Kappa Delta

Mrs. Jane D. Porter, Alpha Xi Delta
Mrs. Thomas Randolph, Sigma Kappa
Mrs. Luther Ruark, Alpha Epsilon Phi
Mrs. Olive Stevens, Phi Sigma Sigma
Mrs. Blanche Thomas, Delta Gamma

Buildings and Grounds

G. O. WEBER, *Business Manager*

THE Plant Maintenance and Operation Department continued to carry on with limited personnel during the biennium ended June 30, 1946. During this period it was necessary to resort to much contract work in painting and plumbing to accomplish maintenance work which had been deferred during the war years.

The following new construction was either under way or completed during this period under the supervision of this department:

1. Gilbert House renovation completed and building occupied by Signa Alpha Epsilon Fraternity in 1945.
2. Buckley House renovation completed and the building occupied by Phi Kappa Sigma Fraternity in 1945.
3. Old Todd House addition of one brick wing completed and the building occupied by Sigma Kappa Sorority in 1945.
4. Calvert and Silvester Halls refurnished and redecorated in 1945.
5. Fire Service Extension Building was constructed in 1946.
6. Veterans' Housing Project was started in June, 1946. This project was granted under the Lanham Act and the building was executed by Federal Public Housing Administration for the University of Maryland. It consists of a total of 22 frame structures transferred from Newport News, Virginia, and Camp Davis, North Carolina. They have a capacity of 104 families and 700 male veteran students. This department was responsible for over-all supervision of the project and detailed responsibility for the site utilities and grading.

A complete reorganization of this department was effected as the period closed and it was designated as the Division of Business Management, with a more closely integrated organization.

Purchasing Division

FRANK K. HASZARD, *Director of Procurement*

THE operations of the Purchasing Office were hampered during the biennium by the difficulty in obtaining needed equipment and supplies, especially groceries, office equipment, and items made of steel. The priority system of the Federal Government caused long delays, in some cases of more than a year, in obtaining essenial laboratory apparatus.

The World War ended shortly after the beginning of the second year of the biennium, and an enrollment of more than five hundred G. I.'s in the fall of 1945 increased the demand for hard-to-get supplies. With the G. I. enrollment in the second semester jumping to nearly fifteen hundred, the textbook shortage became acute. This was attributed to a tremendously increased demand for books, the general shortage of paper stock and lack of trained help in the publishing companies.

Toward the end of the biennium, the University began to get considerable help in relieving its equipment needs, by purchases of surplus war materials and donations from various Army activities.

As the biennium ended, Mr. T. A. Hutton, Purchasing Agent, retired, after 23 years of service.

Report of the Comptroller

C. L. BENTON, *Comptroller*

THE receipts of the two years ended June 30, 1946, for the several divisions of the Board of Regents and the State Board of Agriculture were as follows:

1944–45

	State of Maryland	U. S. Government	Student Income	Sales and Miscellaneous	Total
Instruction, Baltimore	$ 130,338.00	.....	$513,951.37[1]	$ 112,294.77	$ 756,854.14
Instruction and Allied Activities, College Park	275,606.00	290,050.50[2]	392,322.72	146,165.94	1,104,145.16
University Hospital	166,368.00	.....	5,250.00	733,283.99	904,901.99
Agricultural Experiment Station	115,888.00	120,259.72	.....	68,491.41	304,639.13
Extension Service	262,093.00	406,541.25	.....	92,758.61	761,392.86
Live Stock Sanitary Service	227,640.00	.....	.....	27,399.07	255,039.07
Business Management	170,355.00	30,303.43[3]	1,033.10	521,618.63	723,310.16
Princess Anne College	28,183.00	17,510.76	4,227.43	13,413.55	63,334.74
Athletics and Other Student Activities, College Park	.....	.....	73,286.53	.....	73,286.53
Total	$1,376,471.00	$864,665.66	$990,071.15	$1,715,425.97	$4,946,633.78
Percentage of Total Income	27.83%	17.48%	20.01%	34.68%	100.00%

	State of Maryland	U. S. Government	Student Income	Sales and Miscellaneous	Total
Instruction, Baltimore	$ 153,338.00	.....	$ 384,655.34	$ 136,895.29	$ 674,888.63
Instruction and Allied Activities, College Park.	503,312.00[4]	$154,707.30	645,764.05	146,590.40	1,450,373.75
University Hospital	176,368.00	.....	2,950.00	857,020.76	1,036,338.76
Agricultural Experiment Station	116,169.00	122,782.33	.....	82,350.31	321,301.64
Extension Service	285,842.00	386,545.29	.....	94,188.57	766,575.86
Live Stock Sanitary Service	227,013.00	.....	.....	21,031.80	248,044.80
Business Management	225,355.00	23,753.54[5]	2,635.50	649,576.85	901,320.89
Princess Anne College	33,183.00	17,856.01	7,681.59	20,910.91	79,631.51
Athletics and Other Student Activities, College Park	.....	.....	97,100.00	.....	97,100.00
Total	$1,720,580.00	$705,644.47	$1,140,786.48	$2,008,564.89	$5,575,575.84
Percentage of Total Income	30.86%	12.66%	20.46%	36.02%	100.00%

[1]Including receipts from the Federal Government for Army and Navy Trainees in the amount of $320,013.58.
[2]Including $108,079.23 from the Federal Government for the Engineering, Science, Management, War Training Program.
[3]Consisting of payments from the Federal Government for:

Dormitory Renovation	$ 1,800.01
Overhead on Government Contracts	28,503.42
	$30,303.43

[4]Including State appropriation for Teachers' Retirement Fund in the amount of $164,206.00.
[5]Overhead on Government Contracts.

Department of Publications and Publicity

HARVEY L. MILLER, *Director*

DUE to the exigencies of wartime conditions and incident shortage of personnel, the Departments of Publications and Publicity operated under considerable handicaps during 1945 and part of 1946.

As now reorganized, with Publications and Publicity combined in one office, the Publications section is equipped to edit, assemble and prepare for publication the various types of publications emanating from various colleges and departments of the University. This includes such publications as the General Catalog, essential official publications as required from time to time such as Student Directory, Academic Regulations, Biennial Reports, etc., etc.

This department also handles the publication of such extra-curricular publications as *Maryland*, the Alumni publication, the annual football program, homecoming program, etc., etc.

The Publicity Section distributes to all newspapers and radio stations, as well as certain other key addresses, items of interest and photographs pertaining to all types of activities at the University.

This office maintains a file of Alumni mailing list, stencils corrected to date as information for corrections becomes available from various sources.

The Director of Publications also is available as Faculty Adviser in the preparation of various undergraduate publications such as the *Diamondback*, the student newspaper, the *Terrapin*, the student year book, and the annual "M" Book, a guide for freshmen.

Princess Anne College

R. A. GRIGSBY, *Acting Dean of Administration*

DURING this biennium a minimum number of teaching staff continued to maintain a satisfactory curriculum until the return of instructors who had been drawn away by the Selective Service and war industries.

Encouraging plans were laid for the expansion of the curriculum in all divisions of the college.

Enrollment

The enrollment began to show steady increases as veterans, former students, and new students enrolled.

Public Contacts

Community contacts, which had been seriously affected for the "duration," were renewed through the revival of the New Farmers of America's conference, the Farmers' and Home Makers' short course, the 4-H Club short course, and other youth and adult meetings at the college. Contacts through athletic activities also began to increase.

Public Service Relation

The professors in the Department of Agriculture gave abundantly of their services in interest of the Victory Garden, War Food Production Training Program, Community Canning, and Farm Machinery Repair Courses. The faculty of the college sponsored a Sixth District Fourth War Loan Drive which proved a success.

After V-E and V-J Day we took new courage and found ourselves working with and sponsoring prewar activities with a new determination. The NFA Rally was held in the fall of 1945, and judging contest in the spring of 1946. The "4-H" state meeting was held for a week in 1946. The agriculture staff cooperated in other meetings and conferences on the campus and throughout the state.

The Program in Action

The production program of the farm has been mainly one of production for consumption by live stock, poultry, and students. Farm crops showed favorable yields and animal products and garden crops were produced, used, and canned for student consumption.

Despite the drop in enrollment of students for the period of 1942-1945 we find that the enrollment in the Agriculture Division is encouraging. The additional offering in the agricultural curriculum bids fair to yield favorable results.

The additional physical evidences of our program are found in two pure-bred duroc sows, the purchase of a pure-bred Ayrshire cow, the exchange of a pure-bred Ayrshire bull to head our dairy herd.

Several dangerous trees have been removed from the campus, hedges have been trimmed and grass cut and garbage hauled to keep the campus sanitary.

The greatest stimulus to our general outlook in the agricultural program was the purchase of 100 additional acres of farm land. This gives us renewed faith that a supporting program is practical and scientific farming is in the making for Princess Anne College.

Division of Mechanical Arts and Education

I. Major Physical Improvements

1. Construction of cement walk diagonally behind the northeast corner of Maryland Hall.
2. Construction of brick incinerators behind Murphy Hall and Boy's Dormitory.
3. Constructed tile manhole (for sewage) between Oliver and Turner cottage.
4. Repaired boy's dormitory furnace and cleaned underground smoke stack.
5. Constructed well for sump-pump in basement of boy's dormitory.
6. Constructed a concrete floor in one section of boy's dormitory basement (for shoveling coal).
7. General major repairs on farm machinery such as welding and other farm mechanic work.
8. Various general repair work done in plumbing, painting, and carpentry in all college buildings, including teachers's cottages.
9. Installed new hot-water line in kitchen of dining hall.
10. Repaired water jacket on kitchen range.
11. Installed safety valves on all hot water tanks on campus.
12. Refinished floor of gymnasium.
13. Refinished all floors of girls' dormitory.

II. Major Improvement Within the Mechanic Arts and the Industrial Education Division

1. Acquisition of following machinery from the School of Engineering of the Maryland University:

   One 12-inch speed lathe
   One milling machine
   Two 12-inch engine lathes

One Universal saw
One Sensitive drill press
One shear and punch machine
One two-burner gas heater

2. Acquisition of several thousand dollars' worth of hand tools from War Assets Administration.
3. Two gasoline-driven portable electric welders from WAA.

III. Needs

1. A sizable increase in department budget.
2. Another full-time teacher (third man in the department) of Mechanic Arts.
3. Acquisition of the necessary machinery to do advanced sheet metal work.
4. Acquisition of the necessary equipment to teach electricity on a collegiate level.

Division of Home Economics

Student enrollment in the Home Economics Division showed a greater increase during this biennium than in any other division. The staff remained intact as to numbers through the period.

The conservation of food and general household economy continued to be stressed as we emerged from distressing years of the war.

No. 5

A UNIVERSITY of MARYLAND PUBLICATION

Volume II OCTOBER, 1949 Number 5

BIENNIAL REPORT ISSUE 1946 - 1948

OCT 12 1
U. S. OFFICE

UNIVERSITY OF MARYLAND

AND

STATE BOARD OF AGRICULTURE

Including a summary of the work of the University of Maryland, the Agricultural Experiment Station, the Extension Service, the State Board of Agriculture, and other branches of work under the jurisdiction of the University and State Board of Agriculture.

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A UNIVERSITY of

MARYLAND

PUBLICATION

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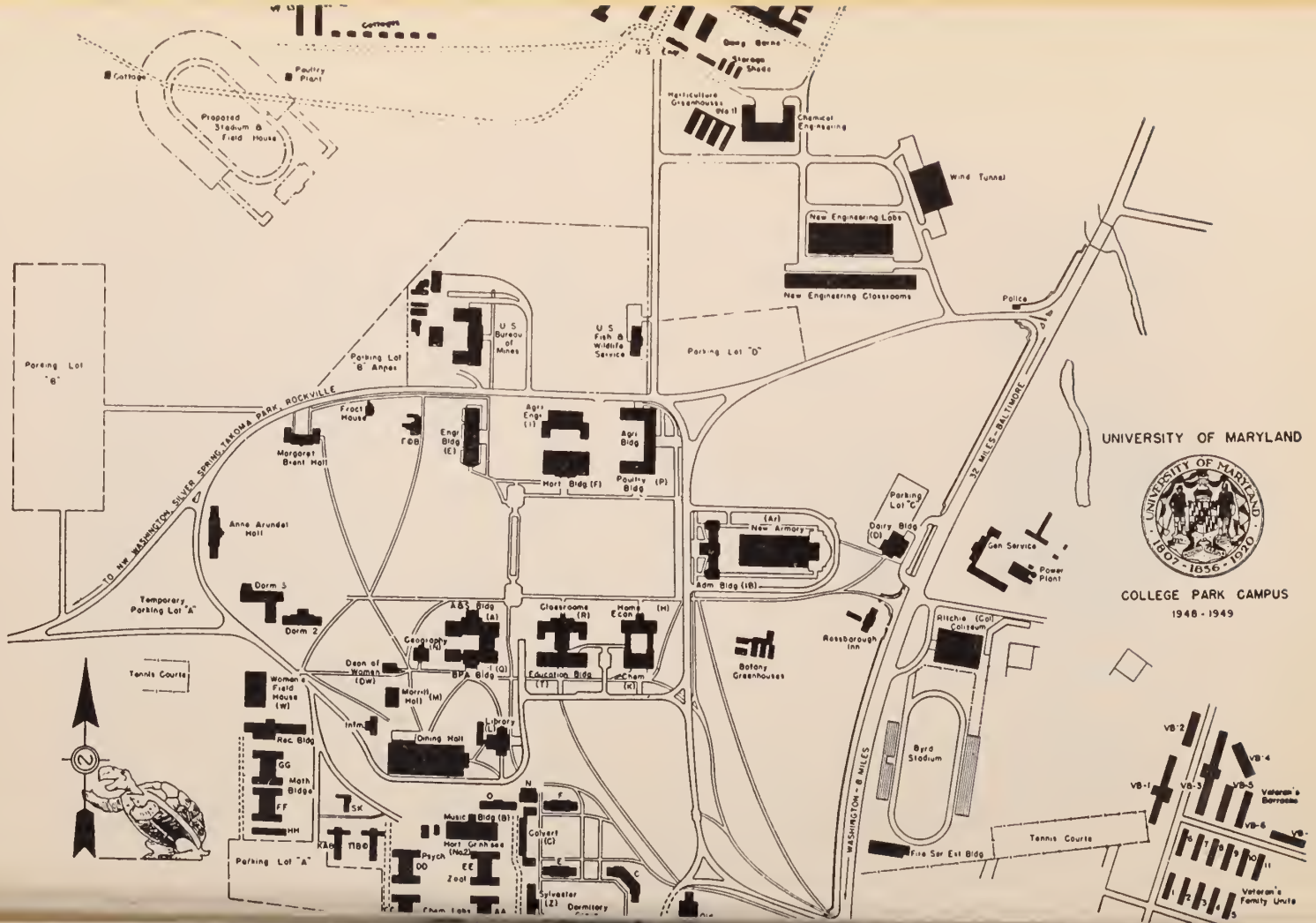
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Edited by Harvey L. Miller, Director of Publications, University of Maryland.


UNIVERSITY OF MARYLAND
COLLEGE PARK CAMPUS
1948 - 1949
Cottages
Poultry Plant
Proposed Stadium & Field House
Horticulture Greenhouses No. 11
Chemical Engineering
Wind Tunnel
New Engineering Labs
New Engineering Classrooms
Police
Parking Lot "B"
Parking Lot "B" Annex
U S Bureau of Mines
U S Fish & Wildlife Service
Parking Lot "D"
TO NEW WASHINGTON, SILVER SPRING, TAKOMA PARK, ROCKVILLE
Fract House
Agri Engr (I)
Agri Bldg
Hort Bldg (F)
Poultry Bldg (P)
Margaret Brent Hall
Anne Arundel Hall
Dorm 3
Dorm 2
Temporary Parking Lot "A"
New Armory (Ar)
Adm Bldg (1B)
Parking Lot "C"
Dairy Bldg (D)
Gen Service
Power Plant
32 MILES - BALTIMORE
A&S Bldg (A)
Geography (R)
Classrooms N (B)
Home Econ (H)
BPA Bldg (Q)
Education Bldg (T)
Chem (K)
Dean of Women (Dw)
Morrill Hall (M)
Botany Greenhouses
Rossborough Inn
Ritchie (Col) Coliseum
Tennis Courts
Women's Field House (W)
Rec Bldg
Math Bldge
Infirm
Dining Hall
Library (L)
Byrd Stadium
WASHINGTON - 8 MILES
Music Bldg (B)
Hort Greenhses (No.2)
Psych
Zool
Calvert (C)
Sylvester (Z)
Dormitory
Parking Lot "A"
Fire Sar Est Bldg
Tennis Courts
VB-1
VB-2
VB-3
VB-4
VB-5
VB-6
Veteran's Barracks
Veteran's Family Units

LETTER OF TRANSMITTAL

UNIVERSITY OF MARYLAND

COLLEGE PARK

Chairman of the Board of Regents of the University of Maryland and State Board of Agriculture.

Sir:

On the following pages you will find brief reports of the various departments of the University of Maryland and of the State Board of Agriculture. The reports include all work done under each board for the biennium ending June 30, 1948.

There is no special report by the President, as the progress of the University, in its various departments, is clearly outlined in the reports of departments. The Extension Service and the Agricultural Experiment Station publish separate reports at some length.

Suffice for the President of the University to express to the Board of Regents and the Governor and the Legislature his great appreciation of the cooperation they have given in the many problems incident to the operation of the University. The University's whole program is built on service to the people of the State and of the Country. The measure of its worth and of its growth will be the measure by which such services are successfully rendered.

Sincerely,

H. C. BYRD,
President.

LETTER OF TRANSMITTAL

His Excellency Governor William P. Lane, Jr. and the General Assembly of Maryland. Annapolis, Maryland.

Sir and Gentlemen:

The Board of Regents of the University of Maryland and the Maryland State Board of Agriculture herewith render a report of the work of the several departments under their jurisdiction for the past two years.

Very truly yours,

WILLIAM P. COLE,

Chairman of the Board of Regents of the University of Maryland and State Board of Agriculture.

BOARD OF REGENTS
and
MARYLAND STATE BOARD OF AGRICULTURE

	Term Expires
William P. Cole, Jr., Chairman, 100 West University Parkway, Baltimore	1949
Stanford Z. Rothschild, Secretary, 109 East Redwood Street, Baltimore	1952
J. Milton Patterson, Treasurer, 120 West Redwood Street, Baltimore	1953
E. Paul Knotts, Denton, Caroline County	1954
Peter W. Chichester, 103 West Second Street, Frederick, Md.	1951
Harry H. Nuttle, Denton, Caroline County	1950
Philip C. Turner, 2 East North Avenue, Baltimore	1950
Mrs. John L. Whitehurst, 4101 Greenway, Baltimore	1956
Charles P. McCormick, McCormick & Company, Baltimore	1948
Millard E. Tydings, Senate Office Building, Washington, D. C.	1951
Edward F. Holter, Middletown, Md.	1952

The Colleges of the University of Maryland

At College Park

College of Agriculture
College of Arts and Sciences
College of Business and Public Administration
College of Education
College of Engineering
College of Home Economics
College of Military Science, Physical Education and Recreation
College of Special and Continuation Studies
Graduate School
Summer School

At Baltimore

School of Dentistry
School of Law
School of Medicine
School of Nursing
School of Pharmacy

University of Maryland
College Park, Maryland

This type of informal education requires a certain amount of campus housing. This problem becomes acute when classrooms are used for scheduled classes ten hours a day six days per week. Fortunately one of the temporary buildings, 1,100 square feet, could be set aside for student recreation in which many student activities were conducted. The needed space for this purpose far exceeded the possibilities of this building so that it is certainly only a matter of time until a specially planned structure should be built to provide the facilities necessary to secure best results from this type of education.

Religious life, sponsored through organized groups of students lead by denominational chaplains assigned to the campus by their respective religious bodies, developed to a high point of interest and cooperation during this biennium, culminating in the continued demand for an interdenominational University chapel. Plans for the chapel are well underway. The study sessions of these religious groups enrich the educational opportunity on the campus of the University for the individual student.

A roster of the important activities contributing to the enrichment of the total educational program of the University during the biennium would not be complete without mentioning the program of competitive sports. The athletic activities, both intercollegiate and intramural, played an important role in student health and served as a valuable adjunct to the College of Military Science Physical Education and Recreation. Scores of students engaged in these highly competitive body and character building activities. In all of these programs there was present the educational concept that the activities of the playing fields help to develop throughout the student body a consciousness of and a lasting appreciation for those great ideals for which the University stands. The proposed increased facilities for these programs now in the University's plans will unify this type of education and greatly increase its important outcomes.

One who has been close to every phase of the University's instructional programs during the past biennium, close to its struggle to stretch its budget to meet the unusual demands placed upon it during this period; who has had an opportunity to observe the returning students, the new students, the reactions of those from other states who were turned away, the zeal with which students have entered into educational activities in the classroom and on the campus generally; and who has followed the alumni in their advancement and aspirations cannot but be impressed with the thought that the University of Maryland represents a broad highway of endeavour into which students may turn and travel upward to important levels of activity in the varied phases of the State's highly competitive and complex life—intelligent agriculture, business, education, engineering, dentistry, homemaking, law, madicine, military responsibilities, pharmacy, physical education, nursing, extension education, recreation, research and the many other highly developed arts which the University's departments touch in one way or another. One with such contacts cannot but be impressed further with the thought that the University of Maryland represents an activity of the State which the State must continue to support in one form or another if the State is to continue to occupy a favored position in the broad area of highly competitive modern life.

College of Agriculture

T. B. SYMONS, *Dean*

R. B. CORBETT, *Associate Dean*

THE greatest increase in students in the history of the College of Agriculture took place during the biennium July 1, 1946 to June 30, 1948. The difficulty centered around finding enough teachers, classrooms and facilities to take care of this great increase. The new Agricultural Building was available early in 1948, which has done much to relieve some of the pressures for classrooms and office space but pressures still continue particularly for additional equipment and laboratory space. There is still no evidence of relief from the shortage of teachers. The student enrollment increased from 72 in September 1944 to 486 in September 1946 and 698 in September 1947.

On July 1, 1946 Assistant Dean Cotterman was promoted to Dean of the Faculty. Professor Fred H. Leinbach was made Assistant Dean of the College but resigned within a few months to become President of the South Dakota Agricultural College. The work was then assumed for a period of time by Professor G. D. Quigley of the Poultry Department. On April 1, 1947 the work was assumed by Associate Dean R. B. Corbett. During much of this biennium Mr. Ahalt assisted with the work in the Dean's office.

In Agricultural Education, Professor and Head of the Department, H. F. Cotterman left the Department to assume his new duties as Dean of the Faculty. Associate Professor Arthur M. Ahalt was promoted to Professor and Head of Agricultural Education in 1947. The course entitled "Introduction to Agriculture" which is the orientation course, was changed from no credit to a one-credit course. No courses had been dropped. In the year 1947-48 there have been 65 undergraduates and 4 graduates specializing in this work.

Botany is one of the required courses and many student in other colleges also took the Introductory Course. Thus it is one of the most largely attended courses on the campus. An outstanding job of meeting the situation and of teaching has been conducted by Professor Bamford with splendid assistance from other members of the Department. There have been 38 undergraduates and 22 graduates specializing in Botany during the year 1947-48. Courses in Plant Breeding and Cyto Genetics have been added to the offerings of this Department.

The importance of Agricultural Engineering has increased greatly in the biennium because of the increase in mechanization on farms. More students are taking courses in this field than before and its growing importance is generally recognized. The work is largely supplementary to other fields of Agriculture, but 17 undergraduates have specialized in Agricultural Engineering. There has been no change in the major teaching positions in the Department during the biennium.

In the Dairy Department Dr. F. G. Warren has been appointed as Associate Professor. No other changes in the major positions in the resident instruction personnel have taken place. There are 66 undergraduate and 9 graduate students specializing in Dairy.

In Entomology a new course "Insect Pests of Greenhouses" was added. There have been in the year 1947-48, 12 undergraduate and 12 graduate students specializing in this Department. Professor Yeager and Assistant Professor G. B. Vogt resigned during the biennium and Mr. S. C. Munson has been appointed lecturer in physiology and Mr. H. H. Shepard lecturer in Chemical Insecticides.

The Department of Agricultural Economics has grown rapidly during the biennium due to the increased work particularly in the field of marketing. The State supported additional work in this field and the following men were appointed: Prof. R. W. Hoecker, Prof, G. M. Beal, Assoc. Prof. S. Cabell Shull. Professor E. S. Troelston resigned. There were 47 undergraduate and 9 graduate students specializing in this Department. No courses were dropped from the offerings of this department, and 6 courses were added: Agricultural Policy, Foreign Trade in Farm Products, Marketing of Dairy Products, Marketing of Fruits and Vegetables, Advanced Farm Management, and Agricultural Economics—Research Techniques.

The Animal Husbandry Department has seen many changes during the biennium. Professor F. H. Leinbach resigned as Head of Department and Professor J. E. Foster was appointed the new head. Associate Professor M. H. Kerr was appointed particularly to teach work on swine. Mr. W. B. Crow resigned. There were no changes in the curriculum offered by the Department during the biennium. 104 undergraduates and 4 graduates are specializing in Animal Husbandry.

In the Horticulture Department a new curriculum designed for training men in the work of processing fruits and vegetables was introduced during the biennium. This program of work appears to fill a long-felt need in this section of the United States. Courses which were added in the department during the two years are: Processing Industries, Plant Operations, Grading and Judging Canned and Frozen Produce, Quality Control, Nutritional Analyses of Processed Crops. There were in 1947-48 105 undergraduates and 14 graduate students specializing in the various lines of Horticulture.

The Poultry Department is recognized throughout the United States for the work which it offers. Professor G. M. Briggs in Poultry Nutrition Research resigned, and Professor C. S. Shaffner in Poultry Physiology Research has been appointed to the staff. Two new courses were added: Advanced Poultry Judging, and Poultry Research Techniques. The number of undergraduates specializing was 28 and the number of graduates, 11.

In Agronomy 3 new courses were added to the offerings of the Department. They are: Technique in Field Crop Research, and Seed Production and Distribution. In 1947-48 there were 46 undergraduates and 15 graduates specializing in Agronomy.

One course has been added to the offerings of the Livestock Sanitary Service Department, namely, Regional Comparative Analysis. There have been no changes in the important personnel within the Department during the biennium. Fifty-one undergraduate students have been specializing in this field planning to eventually enter a veterinary college.

The prospect for enrollment of new students continues high. The pressures upon members of the faculty continue to be great and the prospect is for the need of expanding the resident instruction staff if the quality of the work is to be maintained or improved.

THE AGRICULTURE SERVICES

Extension Service

T. B. SYMONS, *Director*

THIS biennium started in the midst of the first season of farm production following the disrupted conditions of wartime. At the beginning of the year, it was recognized that Maryland agriculture faced some major problems of adjustment to peace-time conditions.

As the representative of the University of Maryland and the U. S. Department of Agriculture, the Extension Service planned a unified program that would concentrate its work on some of these problems.

Farmers faced an uncertain economic situation which called for even greater efficiency in production and marketing to keep on a paying basis. Their war-worn home and farm equipment and buildings needed restoration and improvement as soon as practicable. Loss and waste of natural resources such as the soil, speeded by heavier tillage and other war time practices, needed extra effort for conservation. Better balanced foods to meet the needs of healthy human bodies and more adequate rural health facilities called for a definite plan for improving the health of rural folks. And, finally, as the war strongly emphasized, all could benefit from higher moral, spiritual and social relationships through development of sympathetic understanding of one another.

These aims and objectives were incorporated in a program of eleven points, which brought together the efforts of various lines of extension work toward a common end.

Only a few of the more outstanding activities can be mentioned in this brief report. A more extended report is printed each year and submitted to the Board of Regents of the University and the U. S. Department of Agriculture. The Extension Service also administers a number of activities that are assigned to the University of Maryland by the Maryland State Board of Agriculture. Many of these involve regulatory functions as well as educational and the two phases of work are conducted more efficiently and economically when combined in one organization.

A notable event of the biennium was the completion and occupation of the new Agriculture Building at the University of Maryland. It provided much more space and greatly improved quarters and facilities for the staff located at headquarters.

Extension Personnel—Although the retention of extension workers was a problem, due to the demand and higher remuneration offered in other fields, the loyalty of workers, with small increases here and there to meet emergencies, made it possible to keep the staff intact for the most part. The second increment of Bankhead-Flannagan funds was received on July 1, 1946. This permitted installing assistant agents in a number of counties. In all cases the County Commissioners provided increased appropriations to assist in carrying on the men's, women's, and boys' and girls' club work in the counties. There are now 16 assistant county agents and 6 assistant home demonstration agents in the counties.

Scope of Extension Influence—The activities of the Extension Service are carried on throughout the entire state—in the local communities, on the farms and in the homes. The primary aim is to "help people help themselves". In working toward that aim, thousands of local, voluntary leaders are trained and developed, which multiply many times the efforts of employed extension workers.

A few figures from a summary of reports by extension agents for the year 1947 give a partial conception of the extent to which they reach and serve the people of the state and to which their services are sought.

The county agents and home demonstration agents made 26,107 visits to 12,718 different farms and homes in 1947 in carrying on their work. They had 61,158 calls at their offices and 91,831 telephone calls for information, or otherwise pertaining to extension work. They distributed 85,407 publications containing information which was either requested or of particular interest and value to those receiving them. The attendance at 6,095 method demonstrations conducted by extension agents was 125,383, and the agents participated in 5,994 meetings of an extension nature that were attended by 530,280 persons. The reports show that 41,210 families were influenced by the extension program.

Urban Extension—Since the Extension Service is supported by taxation of all the people, it has been felt for many years that a measure of service should be rendered to urban people, in addition to the benefit they derive somewhat indirectly from the rural extension work.

A demonstration in this field was started with the appointment of a home demonstration agent in Baltimore City on January 1, 1948, and a negro home demonstration agent September 1, 1948. This opens a tremendous opportunity for service to the people in Maryland. Home demonstration work can inspire city homemakers to an appreciation of the benefit of applied science in the home, just as it has done with rural homemakers.

Farm Labor—The Emergency Farm Labor Program, which had been a responsibility of the Extension Service for the last three years, came to an end on December 31, 1947. This was a vital part of the wartime and immediate post-war period. A report covering the program was published at its close.

Certain problems were encountered in 1946 that were different from those of the preceding year, particularly because of the fact that prisoners of war were repatriated and workers had to be obtained from other sources.

On the whole, virtually all food production goals were met and many were exceeded; there was less loss of crops due to lack of labor than in normal times; there was a minimum of complaint by either employers or employees, and general expression of satisfaction. Moreover, there were developed methods and improvements in dealing with certain kinds of farm labor that promise to be of great benefit in future years.

A New Set-Up for Marketing—Marketing Maryland farm products is a $200,000,000 job each year. How well that job is done affects the people who produce the products, those who transport them, those who handle and distribute them, those who process many of them, and those who consume

them. Marketing their products is the chief problem of farmers today, yet it has received too little attention in the past.

It was possible to greatly broaden the work and service in this field during 1947. Funds available under the Hope-Flannagan Act, together with increased state funds, provided for organizing the work on an effective scale, and for the personnel and facilities for great expansion.

The Department of Agricultural Economics and Marketing was established at the University of Maryland, with divisions of Marketing, State Department of Markets, Taxation and Finance, Farm Management, and Land Economics. All are essential in the successful operation of a farm business and are closely coordinated in one department.

Extension activities in the marketing field include the demonstration and teaching of improved methods of marketing fruits and vegetables, improving the marketing of farm products through dissemination of economic and market information, increasing efficiency in marketing fluid milk, increasing the consumption of and lowering the retail margins for fresh fruits and vegetables through adoption of better retail merchandising practices and display methods, assistance to cooperative marketing and purchasing associations, dissemination of outlook information, improvement in the marketing of Maryland tobacco, fluid milk pricing, demonstration of better harvesting and packing methods of fruits and vegetables, improvement in local and terminal markets, and in the quality of fresh and processed farm products. An extensive program was carried on to assist the poultry industry in marketing its products.

The 27 research projects being conducted provide material for making the extension marketing work much more effective.

Soil Conservation—Despite the pressure for more grain and other feed, Maryland farmers are making excellent progress in protecting their soils from erosion. From the beginning of the soil conservation program it was recognized that its success and rate of progress were dependent upon education of citizens generally as to the importance of conserving our resources and the practical and economic methods for doing so. A large part of that responsibility has rested on the Extension Service.

Twenty-two of the counties are organized into Soil Conservation Districts, including more that 90 percent of the farm land of the state. They are operated on a democratic basis, but have the help and advice of the extension specialists and agents and the technicians of the Soil Conservation Service.

More than 5,000 farmers have adopted unified plans of operation of their farms to preserve their soil. Many others have introduced soil-saving practices and drainage on parts of their farms with the expectation of extending the practices as facilities and farm management plans permit.

The program of conservation education was not confined to those who live on the land. Interest on the part of a number of groups and the support they have given is most gratifying. Among them are the ministers, bankers, farm machinery dealers, and garden clubs. Special efforts were made to encourage and assist school teachers in giving instruction on conservation to youth.

Drainage—Remarkable progress was made during this biennium in improving land on the Eastern Shore by drainage. Opening of the Pocomoke River was one of the largest drainage projects in the country. Land on both sides of the river has suffered for years. With the opening of the channel, 14 miles long, and similar treatment of the many branch creeks, nearly 100,000 acres of highly fertile farm land will be drained.

In all, there are about 200 Tax Ditch Associations on the Eastern Shore, which gives some indication of the extent of this work.

Home Demonstration Work—Personal adjustments to peace-time living, homes needing remodeling or repairs, increased demand for homes, and pent-up demand for new equipment and necessities denied during the war were among the problems confronting homemakers and requiring greatest attention by extension workers. The practical subjects of homemaking, such as adequate and proper food for the family, suitable clothing, more comfortable and convenient surroundings, and efficient management, continued to be dominant interests. The homemakers, however, by no means confined their interest to these subjects. Each year brings greater interest and development in the cultural subjects, whereby the women improve themselves, their homes and their communities. They carry on well-organized programs in music, art, reading, dramatics, and recreation.

The broad interests of homemakers were indicated by their desire for information pertaining to international relations and the changing world situation. Starting with a review of conferences leading to the United Nations, the Extension Service provided material designed to clarify the things that were being done and considered. This material proved of great interest to the homemakers, and many requests for it were received from other states.

With the rapid increase in cost of clothing following a long period of shortages, there was particular interest in problems connected with clothing the family. New and unproved materials presented problems in buying and in care and cleaning. The desire for conservation of the family's resources of time, skill and money resulted in county planned programs for study of new fabrics, better buying practices, increase in home sewing skills, and more intelligent use of materials on hand.

In view of world conditions, it was still necessary to plan and produce food for the family needs and to conserve it in every way possible. Preservation of foods by freezing developed very rapidly and extension workers gave particular attention to helping farm families utilize this new method to advantage. Special attention was given also to planning home-produced meals for good nutrition and for eye and appetite appeal; preparing foods by the newer methods; school lunches; and health improvement of the family and the public in general.

The annual Rural Women's Short Course continued to be an outstanding event in extension home demonstration work. It probably has done more than any other one thing to raise the standard of living and increase the appreciation of both the educational and cultural sides of life. The program is so planned each year that every homemaker who attends gets something inspirational, practical and helpful in changing the home picture of the rural women.

Boys' and Girls' 4-H Club Work—From whatever basis it is considered, the 4-H club and older youth work made excellent progress. They carried more and larger projects, and their participation in community, state and national events was greater. Addition of assistant agents in a number of counties, who devote a major portion of their time to 4-H club work, was an important factor in its growth and progress.

The 12,969 boys and girls enrolled in 4-H club work in 1947 completed 29,365 projects. A value might be placed upon the animals and crops they grew, or the food preserved and garments made by the girls, but the value of training as future citizens cannot be measured.

More than a thousand 4-H club members, representing all counties, came to the University for the twenty-fifth anniversary of Club Week. This period of demonstrations, assemblies, and discussions, together with the recreational and social opportunities, is a great inspiration and experience for the boys and girls.

The high standard of work being done by Maryland boys and girls is reflected in the signal honor achieved by the 4-H dairy cattle judging team. By virtue of winning first place in the contest held at the National Dairy Cattle Congress in 1947, the team was selected to represent the United States in international contests held in England.

The many awards received by 4-H club members, in contests, for demonstrations, and on their products, is not a true measure of the value of their work, but it is significant of the quality of their training and effort.

Crops and Livestock—Changes in cropping systems on Maryland farms have been greater in the last few years than occurred in the same length of time some years ago. Some of the factors that have brought about this adjustment in cropping systems are: Increased livestock numbers with limited available cropland, requiring use of more intensive crops and cultural practices; development of new crops, such as Ladino clover and lespedeza, which need to be fitted into the cropping system; need for better land use to control erosion; and adjustments necessary to utilize labor and modern machinery more efficiently.

Extension workers have had an increasing role in helping farmers to make these changes and the calls for such guidance become more urgent.

The general use of hybrid seed corn is one of the most striking and most valuable changes in which the Extension Service has had an important part. Almost 90 percent of the total corn acreage was planted with hybrids in 1947. It is estimated that use of adapted strains of hybrid corn in place of open pollinated corn added 2,000,000 bushels to the crop in that year.

Among other developments in which the Service has had a substantial part are the introduction and demonstration of better varieties of wheat and barley; expansion of Ladino clover acreage to 50,000 acres; increase of alfalfa acreage to 50,000 acres; improved fertilization, liming and management of at least 100,000 acres of permanent pasture; greater use and better placement of fertilizer on 200,000 acres of field corn.

Dairy—The dairy industry reached an all-time high point in Maryland in 1947 in a number of respects—the number of cows milked, pounds of milk produced, average production per cow, and value of milk produced. The broad program carried on by the Extension Service had as its basis the testing for production. Records help dairymen to cull low producers from their herds intelligently, improve their feeding and management practices, plan a sound breeding program, and they stimulate interest in better dairying.

Just prior to the beginning of this biennium, the Maryland Artificial Breeding Cooperative started operation. This promises to be one of the most important developments that has ever taken place for improvement of the dairy industry. It has had a tremendous growth in membership, breeding efficiency has improved, and the number of cows bred has increased steadily each month. Service is now available in 15 counties, in which 85 percent of the cow population is located. A member of the extension staff has served as secretary since its organization and maximum assistance has been given by the specialists and agents.

Livestock—In addition to educational programs usually conducted and services rendered to the livestock industry in meeting the problems which are encountered, assistance was given in launching the Eastern National Livestock Show. This Show was a success from every viewpoint. Some 500 head of fat steers were shown, including 286 by 4-H and FFA boys and girls. In addition to 400 head of fat hogs and 200 head of fat lambs, there were entries of approximately 600 head of breeding cattle.

Plans are being made for expansion and it is hoped that this Show may be developed into a very effective educational, as well as promotional, agency in behalf of the livestock industry of Maryland and other eastern states.

Poultry—Probably no agricultural industry experienced as rapid and as great changes in the wartime and postwar periods as the poultry industry. Such changes not only presented many problems, but were fraught with danger to those engaged in the industry, if adjustments were not made wisely and at proper times.

Information on economical methods of production and on market conditions and trends was particularly valuable. The well-established program of testing for disease and reduction of loss from that source, together with education on efficient methods of poultry management, were of greater than usual benefit to poultry producers. The marketing part of the business was given special attention, both for chickens, eggs and turkeys. A price report service established in the heart of the broiler industry on the Eastern Shore has proved so helpful that it points the way for similar services applied to other farm commodities.

Every assistance was given by extension workers to the four cooperative poultry dressing plants in their postwar problems and in helping to provide a satisfactory market for the expanded production of market poultry.

Fruits and Vegetables—Control of weeds has always been a difficult and expensive item in production of many vegetable crops. Growers were eager for information as to thc effectiveness of 2-4-D for that purpose, and proper methods for its application. Demonstrations were conducted with sweet corn, spinach, and asparagus, which were visted by groups of growers. Apparently, 2-4-D offers a way for farmers and vegetable growers to eliminate several cultivations and reduce cost of production.

The Short Course for Canners and Fieldmen, the Ten-Ton Tomato Club, and such events that have proved helpful to producers and processors of canning crops were conducted as in former years.

A development that promises to have an exceedingly important influence on the fruit industry of Maryland in future years was the enactment by the Genreal Assembly of the "Apply Merchandising Act." It provides for a tax on apples sold, to be devoted to apple sales promotion, research, etc. The extension specialist handled the preliminary work and had the entire Apple Commission set up and ready to operate when the permanent secretary was appointed.

There was particular interest in information pertaining to new equipment and adaptation of old equipment for use of some of the new spray materials, and in refrigerated fruit storage.

Agricultural Engineering—Farmers were not able to keep their buildings in condition during the war years, nor could they purchase new equipment and erect new structures. Add to this the increased use of mechanical equipment and the need for efforts in all fields of agricultural engineering is apparent.

Care, repair and maintenance were the basis for a large part of the work. Repair demonstrations helped farmers to produce with the machinery available during the trying times. Electricity on farms continued to be an increasingly important factor in food and feed production.

A building plan service has been developed so that it is now possible to supply plans for most any kind of building and to meet most any set of needs. During 1947, in response to specific requests, 631 farm building plans were supplied to 261 individuals.

Insect and Disease Control—New and highly publicized insecticides were released to the public in 1946, such as DDT and benzene hexachloride. It was necessary to test their effectiveness and adjust spray schedules to their use where they offered improvement over materials used formerly. There was also the task of informing people who might use them to advantage as to their proper and safe use. Special attention was given to equipment for their application. Airplanes, fog generators, high-spped blowers, and machines designed to use gas-propelled aerosols were studied and demonstrated.

DDT proved to be an efficient insecticide for eliminating flies from barns and protecting animals from annoyance. Dairymen and stockmen took great interest in this work and a state-wide educational program was carried out. Six counties were aided in organizing cooperative spray services whereby dairy and stock barns were sprayed often enough to keep them

free from flies. Even the laborers employed in these counties showed a preference for farms included in the spray program.

A number of counties utilized their spray equipment and organization in carrying out extensive programs of spraying to combat Japanese beetles. The introduction of natural enemies of that insect with a view to long-time control was continued.

Growers were aroused by the threat of serious damage by the European corn borer in 1947 and urged more extensive control efforts. Plans were made for decided expansion in that line.

Tomato growers suffered the greatest loss from late blight in 25 years during the 1946 season. In some areas it was estimated as high as 85 percent of the crop. Loss from this disease is usually negligible, but conditions for its development were very favorable in 1946. Practically nothing could be done to save the crop of that year, but attention was given to a program that would help growers guard against similar loss in future years.

The work of developing, locating and demonstrating varieties and strains of crops that are most resistant to diseases common in Maryland was continued. The varieties of some crops most widely grown in the state are the result of this constant search.

Work With Negroes—There is no reason to make special mention of the extension work with the Negro families of Maryland except to recognize the excellent progress made by them. It is along the same general lines as other extension work and the results are included in reports on the several activities.

In addition to a Local District Agent, there are five Local County Agents and three Local Home Demonstration Agents. They serve the six counties in Southern Maryland and two counties on the Eastern Shore, in which slightly more than 50 percent of the Colored families are located. Negro families in the other counties are served by the white agents, and the extension specialists serve both white and colored. As mentioned, we have recently appointed a negro Home Demonstration Agent in Baltimore City. It is expected that this effort will mean much to the Negro race in Baltimore City.

Cooperation with Other Agencies—There has been cordial relations and excellent cooperation between the Extension Service and the various organizations and agencies working in behalf of agriculture and the rural people of the state. Not only have the farm and home organizations and the commodity and special groups given staunch support to the work and greatly increased its effectiveness, but groups less related to agriculture have shown increased interest and more substantial support. Relations with the several Federal agencies carrying on programs in the state have been harmonious and cooperative. Likewise, the support and encouragement given the work by the President of the University and the Board of Regents, and other state officials has been an important factor in the results achieved.

The Agricultural Experiment Station

W. B. KEMP, *Director*

THREE important changes affecting the Agricultural Experiment Station took place during the period covered in this biennial report. New research facilities were provided by the acquisition of two farms. One for tobacco studies is situated about three miles north of Upper Marlboro. It comprises more than two hundred acres. The site was chosen because it includes a wide range of soil types and topography representative of much of the tobacco land of Southern Maryland. A complete topographic and soil survey has been prepared. Plot series have been laid out and some of the tobacco studies have been inaugurated. Work on this farm will replace and expand both the state work and that in cooperation with the United States Department of Agriculture formerly conducted on rented land adjacent to the fair grounds at Upper Marlboro.

Another farm of about one hundred acres was obtained about two miles east of Salisbury. This latter farm is to be used for research in poultry and broiler production, and in production of vegetable crops both for processing and for fresh market. In addition it is expected that a livestock sanitary laboratory for that part of the state will be moved to the property when adequate facilities are provided.

With passage of the Flannagan-Hope Act for further support of agricultural research and marketing, development of interstate cooperation in agricultural research has been hastened. This act provides funds for support of reasearch projects involving two or more states of a region. It provides other funds to the United States Department of Agriculture for research in cooperation with state stations. For some years there has been a growing practice to coordinate research, both among states and between states and Federal government. These new funds have accelerated growth of this practice to the benefit of the research program. However, with this coordination it becomes increasingly difficult to assign credit to any one research worker or to any one station for new discoveries.

An expanded program of marketing research has been developed since close of the second war. This development has been encouraged by fear that the history of agricultural surpluses after the first world war will be repeated after this one. Funds for an attack upon the marketing problems have been provided both by the Federal government under the Flannagan-Hope Act and by the state.

Published results for the period from July 1946 to June 1948 are included in 5 bulletins, 66 scientific journal articles and 23 miscellaneous publications. Further details are presented in the annual reports of the station. These reports include titles and numbers of bulletins as well as titles of articles and journals in which they appear. Also, brief reports on results are presented for studies that are not completed for publication.

There were 27 new appointees during the biennium: J. H. Hall, R. W. Hoecker, E. E. Miller, S. C. Shull, T. C. Schmidt and H. D. Smith in Agricultural Economics; R. D. Boyce in Agronomy Department; J. B. Anderson, J. E. Foster and M. H. Kerr in Animal Husbandry Department; R. E. Swope in Animal Pathology Department; H. G. Gauch, Norman Horn, E. S. Irwin,

D. T. Morgan and J. J. Smoot in Botany Department; P. V. Saarinen in Dairy Husbandry Department; E. K. Bender, Richard Guyer, J. E. Hawes, A. Kramer, J. D. Leiby and F. C. Stark in Horticultural Department; J. O. Anderson, R. E. Moreng, G. W. Newell and C. S. Shaffner in Poultry Department.

There were 11 resignations: G. F. Madigan and J. T. Mullady from the Department of Agronomy; F. H. Leinbach and DeVoe Meade from the Department of Animal Husbandry; R. N. Stewart and M. W. Woods from the Department of Botany; Catherine T. Dellea from the Department of Dairy Husbandry; Mary Smith and C. C. Stepanek from the Department of Horticulture; G. M. Briggs and R. J. Lillie from the Poultry Department.

State Horticultural Department

E. N. CORY, *Director*

UNDER the State Horticultural Law, the Departments of Entomology and Plant Pathology are responsible for enforcement of quarantines, inspection of nurseries, and the control or suppression of injurious plant pests. The of nurseries, and the control or suppression of injurious plant pests. The work is under the direction of Dr. E. N. Cory, State Entomologist, and Dr. R. A. Jehle, State Plant Pathologist, and is coordinated under the administration of the Director of the Extension Service.

Each year the Departments are called upon to investigate many major pest problems. They pertain to insects injuring fruit crops, vegetable crops, forage crops ,ornamentals, stored products, man and animals, and the household. The following activities were given special attention: 1. Nursery inspection; 2. Orchard spray service; 3. Canning crop insect control; 4. Field crop insect control; 5. Japanese beetle control; 6. European corn borer control; 7. Livestock pests; 8. Fly control; 9. Dutch elm disease; 10. White pine blister rust; 11. Red stele of strawberries; 12. Potato disease control; 13. Bee disease control.

Among the fruit insects on which special investigations were made were the codling moth, red-banded leaf roller, plum curculio, oriental fruit moth, peach tree borer, and the European red mite. Vegetable and canning crop insects investigated included Mexican bean beetle, pea aphis, and European corn borer. Both canners and growers of field corn were alarmed over the increase in European corn borers and requested expanded investigations and control activities. The Japanese beetle was unusually abundant in many parts of the state, causing excessive damage to corn in many areas. Expanded activities for control of this insect were requested.

Programs were undertaken in all counties for fly control. Treatment of animals to eliminate lice was emphasized. New work was undertaken

on the fogging of cities and towns for Japanese beetle, fly and mosquito control. These activities were given enthusiastic support in all parts of the state.

Particular attention was given to testing and more efficient use of new insecticides. Work was done with DDT, benzene hexachloride, chlorinated camphene, chlordane, and hexaethyltetraphosphate. They were tested in different formulations for efficiency and possible plant injury. Special attention was given to aerosol sprays and development of machinery for their application.

Several new types of machines were tested for their performance and efficiency in applying DDT and other insecticides in Japanese beetle control. Mist blowers were compared with conventional sprayers in Japanese beetle control work. Fog applicators were studied for usefulness in treating cities and towns for Japanese beetle, fly and mosquito control.

Nursery Inspection—Two hundred and eighty-two nurseries were inspected, involving the issuing of 661 certificates. The presence of Japanese beetle necessitates a large volume of inspection and certification that is done in cooperation with the Federal Government. This work is absolutely necessary to insure that Maryland producers can ship their products under certification to any point in the United States. On account of the Japanese beetle, 37,817 certificates were issued, covering the shipment of over 14,000,000 plants. In addition, certificates were issued for 234,000 units of farm produce. This work also included the fumigation and treatment of many plants, potting soil, refrigerator trucks, and freight cars. Exact figures are given in annual reports of the State Horticultural Department.

Japanese Beetle—Large-scale control of this pest continued as a major activity. During the biennium, parasites and the milky diseases were distributed for the long-term program of natural control. Acute conditions were met by a program of fogging eight Maryland cities and towns with DDT. Work on more effective material for use in traps as bait and development of more efficient spray procedures was continued.

Fly Control—Through distribution of surplus war equipment, most of the counties of the state were supplied with high-pressure sprayers that were utilized in the Japanese beetle control program and also in barn and livestock spraying campaigns. During the summer of 1946, more than 3,000 farm buildings and 18,000 farm animals were treated in 19 of the 23 counties. This program was expanded in 1947. Complete records are not available, but well over 5,000 buildings were sprayed, and in Montgomery county alone 18,831 cattle were treated for lice control. Practical elimination of the fly menace was achieved on most of the farms that were sprayed.

European Corn Borer—Serious damage in 1947 by the European corn borer led to an extensive campaign in five counties. New machinery was developed or adapted for spraying corn, and DDT was applied by ground equipment and, under contract, by planes. This marks the first time it has been economically practicable to treat corn. Along with the direct control measures, five parasites of the corn borer were liberated, totaling 62,000 insects in 45 sites. One of these, a fly, apparently is thoroughly established and doing remarkable work in reducing corn borer infestation.

Fruit Insects—Work at the Hancock laboratory demonstrated that DDT can be depended upon to practically eliminate the codling moth. However, its use developed a new series of problems brought about, apparently, by the effect of DDT upon parasites of the spired mite and its inability to control the red-banded leaf roller.

Insects that have been giving serious trouble for many years, including the peach tree borer, oriental fruit moth, and certain bugs that cause catfacing of peaches, were readily controlled by DDT.

An outbreak of grasshoppers in 1946-47 caused serious injury in orchards of Western Maryland that were not treated. Where chlordane was used, the control was rapid and saved many apple orchards from serious damage

Bee Disease Control—It was demonstrated that migratory beekeeping within the state can be depended upon to increase the yield of honey to such an extent that beekeeping can be considered a worthwhile commercial venture in any part of Maryland.

As a protection to the beekeeping industry, it is necessary to make inspection for American foul brood and to destroy colonies that are found to be infected. Seven regional bee inspectors were employed. They inspected 4,731 colonies in 370 apiaries. Seventy-six cases of American foul brood were discovered and destroyed.

Strawberry Nursery Inspection—The main purpose of the spring inspection is to meet the red stele disease quarantine regulations and enable growers to sell their plants. An inspection in the fall is a part of the regular nursery inspection. The number of nurseries inspected varied from a high of 614 in the spring of 1947 to a low of 394 in the fall of 1948.

Blueberry Nursey Inspection—In addition to the regular inspection, a special inspection was made of approximately 75 acres for the serious stunt disease. None of the disease was found.

White Potato Seed Certification—During the biennium, 262 acres of potatoes were inspected, of which 166 acres, with an estimated yield of 34,029 bushels, were eligible for certification. Thirty-seven acres were disqualified.

Sweet Potato Certification—Of the 55 acres of sweet potatoes inspected, only 3¼ acres were disqualified. The yield from the inspected acreage was estimated at 5,175 bushels.

Potato Wart Disease—It appears that after many years of work this disease has been eliminated from Maryland. Susceptible varieties of potatoes were planted each year in 17 acres in which potato wart disease was found originally. All tubers were examined and no indication of wart was found.

White Pine Blister Rust—Because currants, gooseberries and related plants are hosts of the serious white pine blister rust disease, shipment of such plants without a special permit is prohibited. One-hundred permits were issued during the two years, and 72 conditional permits.

Dutch Elm Disease—Since past attempts to control this serious disease have not proved successful, a new method is being tried. This consists of spraying elm trees with DDT to control elm bark beetles, which are the chief means of spread. Approximately 40 trees near Dickerson were sprayed and will be kept sprayed over a period of several years to determine the value of this method.

State Inspection and Regulatory Service

L. E. BOPST, *State Chemist*

Introduction

THE State Inspection and Regulatory Service is charged with the enforcement of four state statutes: The Feed Stuff Act, the Fertilizer Act, the Agricultural Lime Act, and the Insecticide and Fungicide law. In addition to testing these materials for compliance with chemical guarantees, the Inspection Service maintains a close surveillance over all labels, to assure correct legal form and avoidance of misleading claims.

Although the primary purpose of the organization is regulatory, certain research investigations must necessarily be undertaken in connection with analyses of new types of products appearing on the agricultural market.

A completed regulatory project is practically unknown. The same types of violations persist in reappearing under different manufacturers, some accidentally, some deliberately. For this reason, the inclusion of tables of data fail to indicate accurately the progress made in improving the quality of agricultural products, and assurance to the Maryland consumer that he is getting value received for his money.

Also, the scope and variety of the work makes a mere figure presentation somewhat misleading. For example, correcting many bad factory practices, with corresponding increase in product quality can be directly attributed to inspection visits from members of this department.

In addition to official samples tested, more than 500 have been examined gratuitously for residents of the State of Maryland. The number of samples forwarded by individuals continues to increase year by year, as agricultural interests in the state increase, and our citizens become more familiar with services available through this department.

Condensed Statement of Control Activities

In the interest of clarity and convenience, the report below is presented under the general subheadings of the industries regulated and followed by a general summary:

Feed

	1946-1947	1947-1948	Total
Inspectors' Samples	2,235	2,257	4,492
Farmers' Samples	217	138	355
Productions	8	6	14
Fines collected	$1,054.00	$600.00	$1,654.00
Receipts	$38,595.00	$41,760.00	$80,355.00

Fertilizer

Inspectors' Samples	751	930	1,681
Farmers' Samples	35	31	66
Receipts	$25,894.83	$26,700.95	$52,595.78

Lime			
Inspectors' Samples	117	109	226
Farmers' Samples	30	60	90
Receipts	$1,035.00	$1,115.00	$2,150.00
Insecticide and Fungicide			
Inspectors' Samples	521	456	977
Farmers' Samples	6	17	23
Receipts	$4,920.00	$5,376.00	$10,296.00
General Summary			
Total samples of all commodities	3,912	3,998	7,910
Total receipts—license fees	$70,444.83	$75,951.95	$146,396.78
Total Disbursements	$62,425.46	$70,706.15	$133,131.61

Conclusion

The two years of post-war adjustment covered in this report have shown the continued need for prudent regulatory work. Despite honest effort to maintain quality, the ethical manufacturer has encountered difficulties calling for corrective measures in which this Department has offered all possible cooperation. But far more important is the service performed in holding to a minimum the activities of opportunists who prey on commodity shortages to defraud the buying public.

Live Stock Sanitary Service

A. L. BRUECKNER, *Director*

Teaching

THE regular courses in Anatomy and Hygiene have been conducted in the poultry and animal fields. The numbers of students taking these courses have been materially increased. Demonstrations have been added in lieu of one of the lecture periods ordinarily used. A new course was instituted, primarily for agriculture students, giving the theory and practice of the care of feet of animals to include proper trimming and in the case of horses, proper shoeing. A new course for graduate students will be instituted under the name Electronmicroscopy. This will cover demonstrations of the electron miscroscope, with some practice in operation, the use of the ultracentrafuge and of its manipulations to prepare students for work in this field. The demand for trained specialists is increasing rapidly.

Research

Research studies in animal and poultry diseases have been intensified in the fields already under investigation and in new and important diseases. The demonstrations of the therapeutic value of para-amino benzoic acid in Brucellosis in guinea pigs has aroused numerous inquries from the medical profession because of the probable value of this treatment in undulant

fever. The transmission of the virus of Newcastle disease of fowls to the Syrian hamster marked the first successful transmission of this avian virus to a mammalian species. The modification of the virus by this means has lead to the development of a vaccine for use in poultry flocks against Newcastle disease. Laboratory studies under controlled conditions have demonstrated the efficacy of this material. Field trials under varing conditions have been undertaken on a small scale and these are being speeded up as rapidly as possible. The probably relationship of Newcastle virus to poliomyelitis virus has been shown by an experiment with monkeys, in which some of those individuals injected with Newcastle virus withstood the injection of poliomyelitis virus into the brain to a far greater extent than normal controls and the appearance of the disease was delayed for more than forty-eight hours.

Field studies in the control of infectious mastitis have been conducted in a number of herds in the state. The institution of sanitary practices, when carried out fully, have led to the reduction of the disease within the herds to a marked degree. The production of milk has been markedly increased with the reduction of the disease. In one herd there has been an increase of approximately 2000 pounds of milk per cow. Various therapeutic agents have been used in trials but it is still evident that the most important part in the control of this disease is in the hands of the dairyman himself.

The racing industry reported an outbreak of infectious anemia in horses originating in the New England area last summer. Immediate steps were taken by the Live Stock Sanitary Service, in close cooperation with the State Racing Commission and the race track interests, to prevent the introduction of horses from that area into Maryland. Plans were eventually worked out under which horses were released from New England, when blood taken from them and injected into a normal test horse produced no symptoms of the disease during a period of 30-60 days observation. During this season horses coming into Maryland for racing must be accompanied by a certificate issued by a licensed veterinarian and signed by the State official. Research studies have been under way for a considerable period of time at College Park in an attempt to transmit the virus to animals other than horses. Some success has been achieved and it hoped that when the virus is adapted to another species that it may be possible to produce a vaccine for immunization. Further than that it is hoped that some species of laboratory animal may be found which will be useful in diagnosis.

Experimental trials with sulfa drugs for the control of fowl cholera have been proven encouraging. When these drugs have been coupled with vaccination the results have been even more satisfactory. These procedures used with sanitary practices have been effective in controlling the disease under conditions when it would have been necessary to market the birds at an inopportune time. Laboratory studies have also been conducted in the use of a drug furnished by one of the leading drug manufacturers, giving proof that this medicinal agent has value in controlling black-head of turkeys which has always been the limiting factor in turkey production.

Cooperative efforts have been put forth with the Bureau of Animal Industry in the study of a diagnostic test for anaplasmosis in cattle. A survey is now under way in which blood samples from herds in the state submitted for routine testing are sent to Washington for further study. When positive animals are found according to their test a survey of this disease is made back at the farm in order to determine whether or not the symptoms of this disease have been shown by any animals. Should this testing program prove sufficiently satisfactory it may form the basis for interstate shipment regulations to prevent the indiscriminate transfer of infected individuals over the United States.

The electron miscropscope has been in use for approximately a year and one contribution has already been made to the literature with pictures of heretofore undistinguished virus. The efficacy of this instrument is to be materially increased with the installation of the ultra-centrifuge for the purification of viruses and proteins and a shadow cast apparatus.

A cooperative project at Charlestown, West Virginia will study the efficacy of mucoid brucella vaccine of Huddleson. The states of Pennsylvania, Ohio, Virginia, West Virginia and Maryland are all parties to the study. Certain phases of the research will be conducted in the several laboratories, Maryland carrying out a large portion of these, including agglutination tests, opsonocytophagic reactions, bacteriological examinations of placenta and tissues of aborted fetuses.

Field Days and Fairs

New regulations have been drawn up which liberalize the requirements for younger animals particularly in regard to vaccination. It will be necessary that all swine to be shown at fairs be tested and shown free of swine brucellosis before exhibition.

Disease Control Program

Tuberculin tests were conducted in 11,648 herds containing 213,885 animals. Testing revealed 326 reactors which were slaughtered.

Brucellosis testing was conducted in 8,673 herds containing 104,593 animals. Of this gorup 3,574 showed positive to the test, some of which were slaughtered and others were retained.

Calfhood vaccination for braucellosis was begun in 78 new herds during the year making a total of 1440 units in which this project is now being used. A total of 6,717 calves was injected.

Tests for Pullorum disease were conducted in 2495 flocks containing 600,717 birds.

Mastitis examinations were made in 268 herds on 9,378 cattle.

Rabies occurred in three counties and Baltimore City with 17 positive cases. The last of these appeared July 1947. Vaccination clinics were set up in Baltimore and Prince George's County. Following vaccination and quarantine the disease rapidly declined.

College of Arts and Sciences

J. F. PYLE, *Acting Dean*

THE biennial report covers the period of great expansion in student registration in the College of Arts and Sciences. During this period the full force of post war veteran registration hit the campus in general, and the College of Arts and Sciences in particular.

The enrollment in the College was:

1931 in 1945
2183 in 1946
2822 in 1947
2707 in 1948

In addition to these students the faculty presented courses attended by 15,134 students registered in other undergraduate colleges on the campus and 1,156 students registered in the Graduate School. Some of the Departments teach more students registered in other colleges than in the College of Arts and Sciences.

The table below shows the number of semester hours of work taken in the College of Arts and Sciences by students registered in the indicated college during the freshman and sophomore years:—

College	Fresh.	Soph.
Agriculture	26	24
Business and Public Administration	18	12
Education	25	26
Engineering	25	24
Home Economics	14	15
Military Sci., Phys. Ed. and Rec.	25	28

It will be noted that any increase in the registration in any other colleges on the campus is immediately reflected in the teaching load thrown upon the faculty in the College of Arts and Sciences. The English department for example is teaching 3,688 students from other colleges—the Mathematics department is teaching 3,628 non Arts and Sciences students (these figures include graduate and undergraduates).

The great increase in the registration of students, both graduate and undergraduate, naturally increases our need for more personnel, equipment, and classroom and office space. The recommendations in the biennial budget are limited to the needs for personnel and operating expenses. The needs, however, for classroom and laboratory space and additional equipment is just as important and pressing.

By increasing the length of the school day from 8:00 a. m. to 5:50 p. m. for five days a week and including a half day on Saturday we have been able to accommodate in a fairly satisfactory manner, the greatly increased demands made upon the staff and for increased physical facilities.

The following is a summarized statement on the status, accomplishments, and needs of the departments most affected by the dominating circumstances of the period.

Enrollment for courses in the department has numbered around 1200. Approximately 700 students were enrolled in courses beyond General Bacteriology. There are some 100 students currently majoring in Bacteriology—this figure excludes graduate students. All of the graduating seniors have obtained positions in some phase of Bacteriology.

Twenty graudate students have been engaged in work for advanced degrees. Eight of these students received their M.S. degree and one his Ph.D. at the June commencement. General subjects of research carried out or in progress are listed below. Many of these are cooperative investigations being carried out in collaboration with one of the following. Bureau of Fisheries, Livestock Sanitary Service, Insecticide Division of U. S. D. A., the National Institute of Health, the Department of Chemistry, Department of Dairy Husbandry, and the National Research Council.

Immunity to Brucellosis
Isolation of Viruses and Bacteria from Air
Vitamin Requirements of Bacteria
Flavors in Milk due to Bacteria
New Bacteriological Technics for Evaluating the Sanitary Quality of Milk and Water
Evaluation of New Disinfectants
Systematic Studies on Selected Groups of Bacteria

Financial aid has been received or is anticipated from the following sources for various research projects.

The United States Public Health Service awarded the department two separate grants for the year 1947-48 totaling $2,500. One of these projects has been approved for continued investigation by the United States Public Health Service and a sum of $4,000 was made available to the department for the year 1948-1949.

Funds for a graduate assistantship and additional equipment have been made available from a grant received by the Chemistry department from the Office of Naval Research. This research project is being pursued cooperatively by the Departments of Chemistry and Bacteriology.

Financial assistance for student help, equipment and reagents has been received from the Baltimore Biological Laboratories for investigations dealing with bacteriological media.

A research assistantship from the National Institute of Health has been awarded to the department to carry on a cooperative study with the department of Parasitology at the National Institute of Health.

A program of research has been undertaken with the Prevention of Deterioration Center of the National Research Council to evaluate hundreds of chemical compounds for their bactericidal and fungicidal activity.

Six scientific papers have been published during the last year as a result of research performed. Seven scientific reports have been made by members of the department at various meetings. Several members of the department have been elected to various offices in scientific societies.

A new laboratory has been equipped to take care of the greatly increased enrollment in advanced bacteriology classes. Facilities in the media preparation room have been greatly improved. Several pieces of permanent apparatus have been obtained.

A department of bacteriology today might more appropriately be designated as one of microbiology since the study of rickettsia and viruses is a responsibility of this department. It will be necessary, therefore, to add to the staff a person qualified to teach and direct research in virology. The bacteriology curriculum would be strengthened by these course additions and such courses would no doubt be very desirable for advanced students in related departments.

Since the State of Maryland possesses significant acquatic resources, it is considered desirable to establish a course of study in Marine Bacteriology. It is anticipated that interest in this subject will lead to development of a research program extending to bacteriological problems in the sea food industry.

Additional courses are to be added to the graduate curriculum, particularly highly specialized laboratory courses as soon as space and equipment are available.

Continued effort will be directed toward the development of a well rounded research program on fundamental and applied problems in bacteriology. It is well recognized that the stockpile of fundamental scientific data in this country is at a low ebb; hence, the necessity for emphasis on this type of research.

In the applied research program it is hoped to continue and to expand the cooperative projects underway with other University Departments such as the Department of Dairy Husbandry, the Livestock Sanitary Service, etc., as well as those with Federal Agencies from which financial support has been received.

It is anticipated that there will be more requests from industry for investigations of bacteriological problems. In so far as these projects are capable of being conducted under circumstances beneficial to the department, they will be contracted.

It is paramount to increase facilities for graduate student research. At least 20 qualified students were turned down this year because of space and supervision inadequacies.

Chemistry

The period from July 1947 to date has required a complete reorganization of our laboratories to accommodate the tremendous increase in the number of students taking laboratory work.

The three temporary buildings which were put in service last year, together with the remodelled area in the main chemistry building have provided sufficient new laboratory space so that we have been able to accept all undergraduates who have desired to enroll in chemistry courses. Certain minor changes in one of the laboratories vacated by the freshman

course will be necessary before this space is used during the second semester for work in quantitative analysis.

The situation is not so favorable as regards space for research students. We do not have satisfactory laboratories for more than a small fraction of our graduate students, and each new student about to begin his research presents a new problem.

The plumbing, steam lines, electric lines, and ventilating equipment in our old building are in a *very* poor state of repair. The ventilating equipment for removing toxic fumes from the laboratories is entirely inadequate, and much of it will not operate satisfactorily.

Storage facilities, stockroom space, and space for receiving supplies are entirely inadequate. These facilities, which were designed to serve a few hundred students, are entirely inadequate to meet the needs of a department of the present size. The lack of a proper stockroom and full time stock room personnel cause a great deal of inefficiency and waste of time of the teaching staff.

Various members of the department have received grants-in-aid from outside agencies to support research and certain contracts with government agencies are in force; both predoctoral, and post doctoral research personnel receive support from these sources. By the end of July 1947 to July 1949, $163,150.00 will have been available from such sources.

The number of graduates with B.S. degrees and a major in chemistry for the period 1947-49 will be approximately 22. Fifteen chemists will probably receive the Ph.D degree and twelve the M.S. degree during the same period. It will not be until the period 1949-51 that the number of B.S. candidates for degrees reaches its pre-war level.

At the present we are short one staff member, an Assistant Professor. We are carrying on during the present semester by the use of a temporary appointee. A new staff member will be available in February.

Within the period of the report eleven research papers by staff members have been published in the chemical journals, six more have been accepted for publication, and four are in the hands of editorial staff and are being processed.

In summary it should be pointed out that by hard work and careful planning the department has been able to meet all demands made upon it. It should be emphasized, however, that expansion in any way is out of the question in the present plant whose mechanical and electrical features are in such poor condition that they are a source of constant danger and expense.

A new building is the most urgent need of the department.

English

The program of the English Department may be described briefly as serving several important purposes. The "tool" purposes include training students in reading and writing and in the study of literature and language as professional specialities. The more general purposes have to do with

enriching the culture of the individual and with fostering the proper understanding and enjoyment of English and American literature. In connection with the work in American Civilization, the department helps to train students in an appreciation of the value inherent in American life.

It seems probable that the number of students taught in English classes has now approached stabilization, at least until a new trend in registration in colleges makes itself felt. The department taught a total of 1200 students in the spring of 1945, 2,400 in September 1945, 5,000 in September 1946, and 6,400 in September 1947. It is expected that the freshman-sophomore enrollment in 1948-49 will be slightly smaller than in 1947 and that the junior-senior graduate enrollment will be slightly larger.

Despite the post-war tendency of students to prefer pre-professional and "utilitarian" subjects, registration in elective courses in English has been heavy. In February 1948, approximately 700 students registered in elective courses.

The development of graduate studies in English has gone forward steadily since September 1945. In the spring of 1945 only two or three students were registered for graduate work in this department. In February 1948, thirty-seven graduate students in English registered in courses. The department will probably register forty to fifty graduates each semester for the next biennium—as many, that is, as it can care for effectively without increasing the number of professors with ability to do research and to direct it, or without reducing sharply the teaching and administrative obligations of those now on the staff. A reduction in teaching and administrative duties is, even now, very desirable.

Including part-time teachers and graduate assistants, the English staff was composed of more than seventy members in 1947-48 and in 48-49. Beginning the year 1948-49, the department will have four professors, six associate professors, and eight assistant professors. The number of professorships as contrasted with instructorships should be increased in the next few years. The department is understaffed at the higher ranks.

The past two years have been marked by increased activity on the part of members of the department in professional organizations and in publishing. Members of the department have published several books and a large number of papers and reviews. Addtional books and articles are in preparation.

Foreign Languages

The Foreign Language department offers instruction in French, German, Spanish, Russian, and Hebrew. Languages are taught for general cultural purposes, as a tool for scientists and other research workers, as a professional subject in the training of teachers, and as the basis of the study of linguistics. The department offers also courses in the literatures of the various countries.

Undergraduate programs are of two sorts; the language and literature major, designed for students with a general cultural interest or for those preparing to teach, and the foreign area major which aims to provide the student with a knowledge of the literature, history, geography, and political aspects of the country whose language he is studying. During the coming

biennium the department will endeavor to develop particularly courses dealing with Latin America, some of them in cooperation with other departments.

The Foreign Study Program of a Graduate Year Abroad is under the direction of the Foreign Language department with a director in Zurich and a resident dean both at the University of Paris and the University of Zurich. Under this plan first-year graduate students are registered and take courses at these foreign universities under the guidance of University of Maryland professors. They may earn a Master of Foreign Studies degree from the University of Maryland provided they submit a thesis and pass an examination after their return. The departments participating in this plan in addition to Foreign Languages are English, History, Sociology, Political Science, and Psychology. For the year 1948-1949 there are between thirty and forty students enrolled at each of the two foreign centers, specializing in these various fields.

Professor Falls has publish during the current year *Le Message Humain* de Georges *Duhamel.* Professor Cunz's book. *The Maryland Germans,* is in press. Professor Zucker has edited a volume, *The Forty-eighters,* to which Professor Prahl and Professor Dobert have each contributed a chapter.

History

During the year 1947-48 for the first time the department of History had to meet the full impact of the American Civilization program. As a result there were some 1,800 students registered for American History during the first semester and some 2,200 during the second semester. Instruction is being provided for about 2,500 for the coming year and the registration for the first semester indicates the accuracy of this estimate inasmuch as the 38 sections average around 70 students per section. The department has found it necessary to provide for instruction in H5 and H6 simultaneously as well as in the summer session.

The principal reactions to our experiences with the program thus far may be offered. The first is the fact of the growing tendency for students to "get the program off" by registering for some of these courses in other institutions either in the summer or in some cases at night hours. If this is to be an integrated Maryland program established with specific aims in mind, should these courses not be taken at Maryland, save perhaps in cases of a relatively small number of transfer students? If the program was designed to supply certain needs and meet certain objectives of our own curriculum, this aspect of the problem will require attention in the future.

So far as the History department is concerned the immediate objective is to stablize our efforts so far as is reasonably possible. The unsatisfactory results of a constant turnover in teachers in the basic courses need little or no comment. Whatever gains are made from past experiences may be largely neutralized by a heavy overturn in staff each year, especially among the instructors in the core courses. There was only one change this year in the departmental staff and only one last year. This is very encouraging. The department is making every effort to retain able and aspiring young

instructors for a reasonable period in order to preserve the continuity of our objectives. This is not to say that more than a few can expect promotion to a higher rank but with the establishment of the new minimum salaries for the various grades, it would appear that there is now a sufficient range to allow promotion within the rank of instructor to assure the desired continuity.

The History department can probably become fairly stablilized with the personnel provided in the present recommended budget. No recommendation is being made at this time for filling the vacant professorship. It must be noted, however, that the pressure of our graduate program will probably require the appointment of a professor whose major duty will be the direction and supervision of our graduate program. No member of the present staff can do justice to this along with the heavy responsibility for undergraduate teaching which is assumed by all. The work of supervising graduate research and theses has about reached the maximum which can be taken care of by the existing staff. Notwithstanding this fact, the number of graduate students is increasing every year, partly because of the attraction of the American Civilization program.

This semester the department has enriched its offerings in the field of the cultural history by introducing a broad approach to the study of western civilization in a course called *The Humanities* taught by Dr. Wilhelmina Jashemski.

Assistant Professor Crosman and five of our six instructors are close enough to their doctorates to assure the gaining of the Ph.D. within the next biennium. Three of these expect to have their degrees by next June 1949; the other three by June 1950, if not before.

Several members of the staff have publications in press. They are Dr. Merrill, Dr. Jashemski, and Dr. Gordon. The McKinley Publishing Company recently issued in pamphlet form *The Study of History, with Helpful Suggestions for the Beginner,* by Associate Professor Bauer. The first appeared serially in *Social Studies* which circulates among thousands of teachers. Several institutions, including the University of Pennsylvania, have adopted Dr. Bauer's pamphlet for class use.

Finally it may be remarked that the department of History has cooperated in the work of the C. C. S. in order to maintain the same standards as courses on the campus. Just how much of this added responsibility can be assumed is uncertain; but up to the present, the department has been able to provide the necessary teachers except for far distant locations.

Mathematics

The teaching load of the Mathematics department over the past biennium is summarized in the following table:

Semester	Total Student Load	Students in Adv. Courses	Total Teaching Hrs.
Fall '46	4,336	215	337
Spring '47	3,705	218	383
Fall '47	4,719	288	463
Spring '48	3,804	291	437

The summer school figures have not been included, but they show the same upward trend. The lower figures for student load in the second semester are due in part to the fact that almost all Engineering students and Natural Science students take only one Mathematics course in the second semester but take two courses during the first semester.

The department feels that on the whole it has done a good piece of work on its teaching. The past two years have been a difficult period, however, to get and hold a well-trained staff against the competition from other schools and other outside agencies for persons of good mathematical training. For this reason, it has been necessary at times, to employ persons as instructors whose training is less than might be desired for college instruction. It is to be hoped that in the next biennium the financial inducements can be such that the staff may be brought to a more uniformly adequate level in respect to training.

The most significant feature of the table for the future of the department is the sharp increase in the number of advanced students, a fact which makes increasing demands on the staff members of professorial rank. This trend is further emphasized by the increased number of students who are in various stages of work for an advanced degree in Mathematics. In the past two years, *six* students have obtained Masters degrees in Mathematics, and by June 1948, fifteen students had definitely indicated an intention of taking a Masters Degree while *twelve* more were working toward the Doctorate. These figures have been further increased during the current registration 1948-49. Under the circumstances, it is essential for the academic health of the department that the two currently vacant positions indicated in the proposed budget be filled with competent men able to direct the work of advanced students. The plan is to secure a man in Mathematical Statistics for one vacancy, for this field has not been represented on our staff since the resignation of Professor Massey this last spring. Since it is in this area that Mathematics makes significant contribution to the Biological and Social Sciences, the development of the work begun by Professor Massey in 1947-48 should be strongly supported.

The biennium has been characterized by an increased demand for advanced instruction in Mathematics by scientists in the Washington area, a demand which the department has met by sponsoring courses at the Naval Research Laboratory, Naval Ordnance Laboratory, Taylor Model Basin, and Bureau of Ships, in addition to the usual advanced courses on this campus. Provisions for the instructors for such courses is not included in the proposed budget, since this is done through the College of Special and Continuation Studies. These courses have materially increased the number of students interested in advanced degrees in Mathematics.

During the two years, the department has held at least three research contracts two with the Navy and one with United Aircraft Corporation. Professors Good, Hall, Lewis, Mitchell, Ringenberg, and Vanderslice have cooperated in these projects. The research has included mathematical investigation on the design of servo-mechanisms, and theoretical studies related to axial compressor and turbine design. In addition Professors Lewis and Martin were engaged as consultants to the Fluid Mechanics Subdivision of the Naval Ordnance Laboratory.

Research activity in the department is indicated by the following list of publications for 1947-48. In addition, Professor Vanderslice is writing a book on Tensor Analysis and is an Editor of the American Journal of Mathematics. Practically all the members of the professorial staff have also been doing reviewing of current papers for the Mathematical Reviews. Professor Hall had been Regional Governor of the Mathematical Association of America since 1946 and Professor Martin was a Sectional Secretary of the Association in 1947-48.

Good, R. A. *On the Theory of Clusters,* to appear in the Transactions of the American Mathematical Society.

Hall, D. W. *An Algorithm for the Solution of Ordinary Differential Equations,* to appear in the American Mathematical Monthly.

A Note On Peano Spaces (With M. Boyer), to appear in the Bulletin of the American Mathematical Society.

On a Theorem of Alesandroff, to be submitted to the Duke Mathematical Journal.

Jackson, S. B. *Geodetic Vertices on Surfaces of Contsant Curvature,* submitted to the American Journal of Mathematics.

The Sound Waves Generated by a Particle at Superonic Speed (with M. H. Martin), to be submitted to the American Mathematical Monthly.

Lewis, D. C. *On Metric Properties of Differential Equations,* submitted to the American Journal of Mathematics.

Martin, M. H. *A Geometrical Approach to Prandtl-Meyer Flows,* to appear as Naval Ordnance Laboratory Memorandum.

The Sound Waves Generated by a Projectile at Supersonic Speed (with S. B. Jackson).

Two-dimensional Flows, to be submitted to the Quarterly Journal of Applied Mathematics.

Weinstein, A. *On Axially Symetric Flows,* Quarterly Journal of Applied Mathematics.

Music

The department of Music faculty was increased to five members giving it three full time and two part time teachers.

Courses in Music Appreciation, Survey of Opera, Harmony, History of Music, and at Summer School, courses in Methods of Teaching Music, Conducting, and Fundamentals of Music were taught.

The Women's Chorus and Men's Glee Club made many appearances both on and off campus. The high standards attained in Choral work were effectively demonstrated at the Rise' Stevens Concert in the Coliseum on May 19, 1948.

The Student Band and ROTC Band now have a full time Director, and the Orchestra a full time Director and the assistance of a part-time instructor. These instrumental organizations present music at Football games and wherever requested at other athletic events, pep rallies, Commencement and Convocation exercises and Concerts on the campus.

The extra-curricular musical organization known as "Clef and Key" is supervised and assisted by the Music Department staff.

The department of Music faculty was increased at the beginning of the school year 48-49 to six members with the addition of a Public School Music Specialist, enabling the department to offer courses leading to a bachelor of science degree with public school music as the major.

In addition to the courses listed for 1947-48, courses are now offered in Solfeggio and Ear Training, Elementary Conducting, and we have increased credit hours in Harmony. At this writing, before the close of registration, a very satisfactory response to this music major is noted.

The department of Music has sponsored the following public appearances of its various organizations:

Men's Glee Club	9 appearances
Women's Chorus	9 appearances
University Band	7 appearances
Orchestra	1 appearance

To offer all the courses necessary to continue the work leading to a Public School Music major, it will be necessary to add an Associate Professor of Music this year. This proposed Associate Professor would be one who could teach Piano, Harmony, Advanced History and Appreciation of Music, and Advanced Conducting (Instrumental). With these courses being given and anticipating those to be added next year to complete the work leading to a bachelor of science degree with Public School Music as the major (College of Education), we propose that the College of Arts and Sciences offer a Bachelor of Arts degree with music as the major.

The Music department faculty should be increased this year, adding an Assistant Professor of Music and an Instructor. Anticipating a demand for applied music, we would now be able to offer lessons in Voice, Piano, and Stringed Instruments. The Assistant Professor of Music would teach Voice, Advanced Choral Conducting, Solfeggio II, and Survey of Opera. The Instructor would assist in the conducting of the Orchestra, teach Violin, Viola, and/or Cello, and one or both of the courses in Instruments of the Orchestra.

Present facilities, equipment and space occupied by the Department are definitely not adequate for these two year. Until we can get a MUSIC BUILDING, the type that our University should have, we could make use of two of the "H" shaped temporary buildings. We must have two large rehearsal rooms, class rooms, studios, and practice rooms, with office space and storage space. We will need four grand pianos. We have on hand one grand piano now in use in the Music Building and we propose that the Stieff Grand now in the Armory Lounge be moved to the new Music Building, leaving two grand pianos to be obtained elsewhere. In addition we will need six upright pianos for classrooms and practice rooms. Also it will be necessary to acquire music instruments for the teaching of classes in "Instruments of the Orchestra" proposed above.

Physics

The enrollment in the Physics department has increased from the fall of 1946 to the fall of 1948 as follows:

1. Beginning or elementary courses 1,637 to 3,510 student-credit hours.

2. Intermediate courses, 136 to 690 student-credit hours.
3. Graduate courses 389 to 921 student-credit hours.

The increased enrollment in the intermediate physics courses presents a serious problem. Only one whole room, E13, is available for the laboratory. It has been necessary to schedule the laboratory work separately from the theory work. The apparatus and cases have been moved into the hallway to provide additional space. The labor in handling apparatus accordingly has been increased. Since only one piece of apparatus is available for each experiment the scheduling has been arranged so that experiments in mechanics, heat, light, sound, electricity, magnetism, and modern physics are performed simultaneously.

The 1948 enrollment of graduate students specializing in Physics at the Naval Ordnance and Naval Research Laboratories has been very heavy and at these laboratories has greatly exceeded the enrollment in any other department of the University. The increased enrollment presents a real problem in interviewing students, arranging the courses, and obtaining teachers so that a high standard will be maintained.

The equipment in the department's machine and instrument shop has been greatly increased. The shop is now well equipped for glass blowing, wood working, and metal working. A great amount of the shop equipment was obtained from U. S. Surplus Property. Of the material thus obtained the larger part was secured by Dr. Morgan on a trip to Detroit, Michigan.

In connection with the program to encourage the study of physics in the high schools, Dr. Morgan is scheduled to give a course on the "Teaching of Physics" in the School of Education. Credit for this course will count toward the educational requirements for a teacher's certificate.

A large number of undergraduate students in Arts and Sciences have elected to pursue work in applied or engineering physics. The course is so planned that the student may major in physics and minor in one of the branches of engineering. This program will satisfy a large demand on the part of students who are interested in a more fundamental and cultural program than that offered by an engineering school.

The department has a course in experimental nuclear physics at the Naval Research Laboratory. It affords an opportunity for our students to take work in this field without the necessity of our making the big expenditure for the equipment. However, the transportation is a problem.

The following scientific contributions have been made:

1. Professor Cooper and Mr. Kissinger presented a paper on "Mean Life of Negative Mesons in Carbon" at the meeting of the American Physical Society in May 1948. The results are published in the Physical Review 74, 349 (1948). Last summer Professor Cooper, in collaboration with the cosmic ray group of the Naval Research Laboratory, made a study of the intensity and the positive excess of slow mesons at high altitude by means of observations made in a balloon flight at Camp Ripley, Minnesota. These data are being analyzed and the results will be published subsequently.

2. Professor Iskraut presented a paper on "The Restricted Five Dimensional Treatment of Wave Theories" at the meeting of the American Physical Society in May 1947.

3. The Ph.D. thesis of S. H. Liebson was published in the Physical Review, October 1, 1947. The work was done under the direction of Professor Myers. Dr. Liebson is the first person to receive the Ph.D. degree in pyhsics at the University of Maryland. There are now over twenty candidates for this degree who are well along toward the completion of their work.

4. Professors Morgan and Myers completed the work on an industrial project in connection with the Hobbs Glass Limited of Ontario, Canada, on the characteristics of chemically deposited silver mirrors. A paper on this work will appear in the November issue of the journal of the Franklin Institute. In connection with this project, silver surfaces have been investigated by electron diffraction and optical techniques. A second paper is being prepared on the method of increasing the sensitivity of the Soleil compensator by the use of nonreflecting films. This will be submitted for publication in the Journal of the American Optical Society.

The following new graduate courses in connection with the department's research program have been added:

1. Physics 236, Theory of Relativity; and Physics 238; Quantum Theory. Both of these courses are given by Professor Iskrout in connection with his research in theoretical physics.

2. Physics 242, 243, Theory of Solids. This course is given by Professor Myers and parallels the development of the department's most extensive research program. A cooperative program has been arranged with the Walter Reed Hospital by which the new and latest model of the R. C. A. electron microscope is available for use by our graduate students. While this is but part of the program with the Walter Reed Hospital it is certainly a most important part in making it possible to extend the study of solids.

Due to the expansion of the Department both in student enrollment and size of staff much additional equipment and space is needed. It is particularly imperative to provide research space for the staff if a high standard is to be maintained in the graduate program. Some additional funds have been allowed but they are not adequate for the future program. In a letter of April 30, 1947, to President Byrd 11,400 sq. ft. of additional floor space in the Engineering Building was requested. This includes all the basement and nearly all of the first floor of the building. This space is requested until a new building is provided for the Physics department. Any temporary arrangement that would require the department to move is not tenable in view of the excessive labor, expense, and interference with the laboratory and research work. It has been ascertained that there is definitely no available space in the new engineering buildings now under construction.

The department is confronted by a serious problem in maintaining a staff in competition with the higher salaries paid by the national govern-

ment laboratories. Last summer we lost six of our eleven graduate assistants. This fall we were able to get a total of only nine graduate assistants.

Professor Cooper plans to continue research in the field of cosmic rays. Additional balloon flights will be made in the study of this problem. Mr. Wagner is studying under his direction the properties of slow mesons, electrons, and nuclear stars by using photographic recordings on nuclear physics plates. Microscopes for this work have been ordered.

Professor Iskraut is continuing research in the theory of fundamental particles. He will also be engaged with the Naval Ordnance Laboratory as a consultant in connection with certain military projects.

Mr. Swartz plans to work on the problem of intermolecular forces by the use of certain well-known isotope pictures. For this work, since the department does not have the funds, it will be necessary to arrange for the use of a mass spectrometer in on of the laboratories in or around Washington.

Professors Morgan and Myers will continue the study of metallic surfacees by use of X-ray, electron diffraction, and optical methods. In connection with the research in the field of the solid state investigations on the energy levels and fields in solid state investigations on the energy levels and fields in solids by use of the magnetic resonance technique are planned. A graduate student has already been assigned to the problem of constructing a suitable electromagnet. In connection with this project another student will be assigned to the construction of suitable wave guide and electronic circuits. In collaboration with Professor Brickwedde of the National Bureau of Standards, Professors Morgan and Myers have assigned a student to the measurements of specific heats at high temperatures. The contruction of the apparatus is now about completed. This study will provide not only useful information for the thermodynamic calculations but also useful information about vibration spectrum of solids. Such a study is not only of theoretical value but also of industrial significance.

Psychology

During the past two years the number of staff members has varied. At present there are six full time members with academic rank of Assistant Professor and higher. Two staff members from last year are no longer present. These have not been replaced. D. D. Smith has been temporary Acting Head since January 1, 1948. The personnel needs are a permanent Head, one Associate Professor in social psychology, one Associate Professor in clinical psychology, one in industrial and an Assistant Director of the University Counseling Center.

Emphasis in the past has been in graduate training. At present there are twenty-five full time candidates for advanced degrees. In the period January 1, 1948 to June 1948, there were seventy-five applications for graduate training. By necessity only a small number could be accepted.

The ONR Contract on Leadership under the direction of Dr. Sanford was completed August 31, 1948. A textbook on leadership was written and is in use in the Naval Academy. Also studies were made at the Academy evaluating the leadership material.

A Project Subsidized by Office of Naval Research entitled, "Identification of Persons Unsuitable for Military Service", Dr. Cofer, Principal Investigator, was started in November 1947. Three graduate students have been employed on this project. Two experiments have been conducted. Technical reports are now in preparation.

The Veterans Counseling Contract has been renewed for another year. The fee paid to the University by Veterans Administration has been raised to $24 per case. During the last fiscal year 467 cases were completed at $20 per case. It is anticipated that this contract will be extended through 1950.

The University Counseling Center processed approximately 500 cases per year. The specialized service will continue to grow and the services broadened. The V. A. and University Counseling Center now employs a Director, 2 full time counselors, 6 half-time counselors, a psychometrist, a research assistant and a stenographer. The future needs are for an Assistant Director and 6 graduate assistants to develop the University reading and study habits program. With the additional staff, the Counseling Center will meet the standards to two certifying groups: (1) American Psychological Association, (2) National Vocational Guidance Association.

The University Testing Program is under the direction of the Director of the University Counseling Center. All freshmen are given a three hour battery at the beginning of each semester. Tests have been developed in cooperation with the Mathematics department for better classification of Math. students. Monthly examination programs have been in operation over the past two years to aid the Admissions Office in qualifying students for admission.

United States Air Force Contract: One research contract on warning devices is now being completed. This contract involved $25,000 in research funds and approximately $10,000 in equipment. A new contract with the USAF is being written up at present involving a sum of $25,000 for the next year. The new study is basic research on selection tests for Air Force cadets and studies in motivation. In addition to Dr. R. Y. Walker as Director, this project has and will support two and one-half graduate assistants, two under-graduate assistants and one stenographer.

Certification by the American Psychological Association: The American Psychological Association, in the past two years, has started accrediting departments of psychology as suitable for graduate training of clinical psychologists. A program of courses has been developed and liaison established with practicum agencies as required by the Association. It is hoped that Staff requirements of the Association can be met in the future. To meet these requirements will require the addition to the present staff of at least one non-clinical teacher and one clinical teacher, each of whom can devote half of his teaching time to graduate instruction. These new staff members must have received the Ph.D. degree prior to 1944.

Professional Activities

Dr. D. D. Smith, member, Advisory Committee to Board of Correction, State of Maryland, member of Committee to revise rules and regula-

tions governing the Guidance and Counseling Division of American Psychological Association, active military duty in planning aviation medicine research in Navy, consultant with Conference Research, University of Michigan and Office of Naval Research, U. S. Navy.

Dr. C. N. Cofer, member Advisory Committee to Board of Correction, State of Maryland, Member Advisory Board, Prince George's Mental Clinic, chairman, Committee on Teaching Clinical Psychology, Division of Clinical Psychology, American Psychological Association, president, D. C. Psychological Association. Service Consultant in clinical psychology, Veterans Administration, Publications

With Smith, G. H.—"A Simple Inexpensive Classroom Demonstration in Concept Formation", Amer. Psych. 1947, 2, 521-22.

With Bregl, M. M.—"A Study of Kent and Buch Screen Tests of Mental Ability in relation to Otis and Standard Achievement Consult, Psych. 1948, 12, 187-89.

Two papers presented at professional meetings.

Dr. W. C. Schaefer, Secretary, Maryland Psychological Association, 1948-49, Consultant, with Bureau of Aeronautics, U. S. Navy (logistics planning) 1947-49.

paper presented and publication in Educational Research Forum, IBM; Endicott, N.Y., August 1947.

Several addresses to P.T.A. groups in Maryland and Virginia.

Dr. R. Y. Walker, member, Diplomate in Industrial Psychology, The American Board of Examiners for the American Psychological Association, consulting with Wright Field, Strategic Air Command, and the Washington Offices of the Air Force concerning psychological problems in aviation.

Papers presented at meetings: research design and control was presented to the American Psychological Association annual meeting. Two papers on USAF research were presented at the Eastern Psychological Association meetings.

Publications: Classified research reports to the USAF.

Dr. R. C. Hackman, Civilian consultant, Navy Department, Research associate, The Psychological Corporation, President, Maryland Psychological Association, 1948-49 paper presented at the September meeting of the American Psychological Association, Boston, Mass. "Can vocational counselors predict the expressed attitudes of their counselees toward the counseling situation?"

Sociology

The past two years have shown a remarkable increase in interest in sociology and sociological problems. In view of the international scene, attention more than ever before is being focused on problems of levels of living, population, and factors of human relationships and adjustments. An average of more than 2,000 students per semester have enrolled in sociology courses during the past two years—a number both actually and proportionately far in excess of any previous period at the University. The greatest increase thus far has been in the freshman and sophomore classes, but as this wave of students reaches the junior, senior, and graduate level, advanced classes will increase greatly. For example, during the last semester of the

biennium, one sophomore class, the size of which had formerly constituted one fair sized section, jumped to a registration of 198 students.

During the year just closed the number of sociology junior and senior majors was well over that of the previous year. Of these more than 70 majors, approximately 50 were juniors, a fact which indicates that even a more substantial increase in the number of sociology majors may be expected during the coming year. A similar increase in interest is being shown at the graduate level. Teaching loads have been too heavy for the most effective teaching, but it is hoped that this may be at least partially remedied during the next biennium.

Major points stressed in the department during the past two years have been as follows: (1) Specialization of work of staff members. While each of the staff members helped with introductory course work, each has been encouraged to do productive specialization in his major field of sociological interest. Staff members have therefore been called upon by various state and national groups for scientific papers and other information in such fields as the family, criminology, rural sociology, surveys, etc. (2) Development of research. Some funds have been obtained from the University of Maryland Agricultural Experiment Station to aid sociology staff members in carrying forward research in the state. A part of this research has been carried on through the cooperation with the U. S. Department of Agriculture, which has placed a full time rural sociologist in the department. Most emphasis in this regard has been on a library study which has not only attracted considerable state attention, but has attracted national interest to the extent that the head of the Sociology Department has been asked to arrange a program on this subject at the forthcoming national meetings of the American Sociological Society. (3) Emphasis on teaching methods. During this period of large classes and limited facilities every effort has been expended to make the teaching as effective as possible.

Major points of emphasis for the next two years are to be as follows: (1) To continue the points of general emphasis mentioned above; (2) To expand and make more effective junior and senior offerings in line with the trend in enrollment; (3) To develop more graduate work in keeping with the demand; (4) To set up additional graduate assistantships to (a) help with the increasing volume of research work and (b) to assist teachers in handling the detail of work incident to large classes; (5) To develop facilities, among other things a research laboratory, so that staff members and graduate assistants can do a greater amount of professional research work; (6) To institute and carry forward in conjunction with the Agricultural College, a rural sociology extension program in the state.

Speech

The great increase in enrollment in courses in speech is indicated by the following statistics:

	Aggregate Enrollment	Max. Teaching Hrs.	Max. Staff Members	Max. Teach. Load
1945-46	1,740	101	8	15
46-47	3,823	204	14.5	15
47-48	5,343	264	19.5	15

The maximum load falls during the second semester of each year.

The department expects no drastic drop in enrollment during the next biennium. Any loss in beginning courses will be compensated by increases in advanced courses. Present staff personnel should be able to handle any reasonable program during the next two years.

The over-all philosophy of the department is that speech is a very vital tool indespensable to modern education. Practically every student in the university receives training in Public Speaking, and, generally speaking, the effectiveness of the training is in direct proportion to the amount of training as dictated by the student's curriculum. For the spring semester 1948, 83% of credit hours in speech courses was in the field of Public Speaking. It is obvious, therefore, that the department is a "service" organization concentrating on general educational objectives, rather than devoting its time and effort to a select few.

Students interested in the vocational aspects of the speech field increase each year, and a large number of students have elected speech as their major. The department has met this increasing demand by planning a diversified program which will enable a student to major or minor in the speech field. Specific areas of work are: 1. Public Speaking (including debate, discussion, rhetoric, etc.), 2. radio, 3. speech correction, 4. Dramatic Art. A striking example of the vocational opportunities offered trained speech specialists is shown in the recent action of the State Board of Education. Effective immediately the State Board will certify speech teachers in the field of Correction and Audiology. It is fair to assume that in the future Public Speaking and allied courses will be taught on the secondary level in Maryland public schools. The department will have to increase its teacher training program to meet the demand for speech teachers.

Radio offers vocational opportunities and many students are interested in this subject. The development of Television should be watched closely and there may be a demand for training in this field in the immediate future. Professional and semi-professional dramatics appeal to a limited number of talented students, and several students are expressing a desire to pursue this work, their ultimate goal being Little Theatre work, high school dramatics (coaches) and similar activities. The department of Physical Education has recognized this trend, and now all majors in Recreation are required to study play production.

The department has proceeded very cautiously in offering graduate work and a modest start has been made in the field of Speech Correction. It would seem desirable to expand the graduate program to include other fields of speech.

In spite of large classes, heavy teaching schedules, and the constant demand for department members to assist in all types of extra-curricular work, the department has ept pace with the general growth of the university and performed a good piece of work. New appointments to the faculty have proved, in most cases, to be satisfactory. Salary schedules should be made attractive to hold good teachers and to attract new ones.

Activities in Speech Department

Expansion of courses and staff to meet increased enrollment.

Addition of a limited number of new courses to meet student demand.

Consolidation of dramatic work under the department, and the establishment of a University Theatre.

Theatre facilities improved.

New Radio studios completed.

Campus-wide student operated radio station organized and broadcasting to begin Fall 1948.

Re-establishment of University Speech Clinic.

Cooperative Speech Clinic organized with Walter Reed Memorial Hospital, and a graduate program inaugurated leading to the M.A. degree.

Preliminary plans under way to cooperate with Prince Georges Hospital and the University Hospital in the setting up of a speech rehabilitation program.

The Inauguration of Speech Clinics in various parts of the state for teacher training purposes.

Staff members have contributed articles to professional publications.

Standards of academic training for staff have been raised.

Extensive program in off-campus public speaking classes conducted by the department under the supervision of C.S.C.S.

Increased participation by staff members in all campus activities.

Objectives of the Speech Department

Improved teaching.

Better distribution of academic rank within the staff.

Salary increases to meet rising living costs and to reward outstanding work.

Expansion of graduate work and the creation of graduate assistantships.

Minor changes in speech correction field to meet State Board requirements.

Minor changes in radio courses to meet educational standards of National Association of Broadcasters.

The gradual establishment of university directed speech clinics over the state.

A new theatre or auditorium.

The purchase of new radio and recording equipment.

The possibility of establishing a summer theatre workshop at Ocean City, Maryland.

Zoology

Additional facilities have been acquired to take care of the large enrollment in the department. While these additions, at present, are of a temporary nature, it is hoped that in the near future the department will be permanently housed in one building with adequate facilities.

During the biennium, the following courses have been added:

Fisheries Biology

This course has been received with enthusiasm which illustrates the fact that there is sufficient interest in this field that the department should even further enlarge the facilities and equipment. Fisheries biology now is essentially a definite unit in the department. It is hoped that members of the fish and wildlife service located on the campus can be placed on a part-time basis on the staff of the department in order to supplement courses already given.

Parasitology

This course was started last year and immediately had a large enrollment. It has appealed particularly to pre-medical and biological students. Considerable equipment has been purchased for this and related courses and the department is now in a position to grant advanced degrees in this field.

Aviation Physiology

The need for this course was made apparent by the fact that the department is engaged in research in Aviation Physiology and also the new school of Aeronautical Engineering has shown the need for such a course.

The number of students that have been graduated from the department greatly surpasses that of any former period. The number of B.S., M.S. and Ph.D. degrees granted by the department increased substantially over any previous period. In general, it may be stated that the teaching output of the department has more than doubled over any previous similar period.

Research

The following two lines of research are at present being emphasized.

Aviation Physiology

Through a grant from the Navy, this work has been carried on for the past two years which will result in at least twelve technical publications. During the next biennium, the grant from the Navy will probably be increased and we anticipate cooperative projects in this field with the Glen L. Martin school of Aeronautical Engineering. Five additional members have been added to the department as a result of this grant. A substantial amount of equipment has been purchased.

Fisheries Biology

A number of problems important to the fisheries interest in the state of Maryland have been started. Some of this work is near completion and will result in a number of publications. Cooperative projects with the Fish and Wildlife Service and the Game and Inland Fish Commission of the State of Maryland have been established. In addition, several research projects of commercial importance have been established on the Eastern Shore of Maryland in cooperation with the local fishermen.

Other research problems are as follows:

Studies of blood groups
Parasitological studies
Histological studies

Proposed work for the next biennium:

Increased facilities for undergraduate classes

The addition of courses in:

Fisheries management

Advanced parasitology

Endocrinology

Physiology

Hydro-biology

Physical equipment

It is hoped that the department will obtain permanent quarters which will be equipped to produce a department consistent with the amount of teaching and research in which we are engaged.

Staff

Additional members of the staff will be added to take care of the teaching and research needs of the department.

Arts and Sciences Building



College of Business and Public Administration

J. F. PYLE, *Dean*

THIS Biennial Report covers a period of great expansion in the College. The registration has increased from a low of 158 students in 1944 to a high of 2,116 in the fall of 1948. This growth in student body has placed a great strain on our physical and personnel resources. We have met the emergency fairly satisfactorily through improvising in the way of space, equipment and faculty. Our needs in the form of space and equipment can be adequately met only through the provision of a new and modern building designed for the special needs of the College. The College is now the second largest in the University. It is in a position to render vital and valuable services to the citizens of the State of Maryland, provided funds are allotted with which to secure a suitable building, adequate equipment and a qualified staff.

Additional space is urgently needed for:
The Bureau of Business & Economic Research—at least 50% more
The Bureau of Public Administration—at least 100% more
An Advertising Laboratory
A Statistical Laboratory

The following is a summarized statement concerning the various Departments and Bureaus in the College:

Department of Business Organization and Administration

The additional space recently given to the Department of Business Organization and Administration is not very satisfactory. It is in the old Engineering Building. There are no ceilings in the room, (only the flooring of the rooms above) the old original lights are still there—drop cords with tin reflectors. These are probably part of the original equipment installed thirty or forty years ago. Some of the rooms are so large that we have to put ten or twelve instructors in the same "open space" and the bare brick walls have not been painted in years. Directly under this section is located the laboratories of the National Sand and Gravel Association Research Foundation. There is only the flooring intervening. The noise made by the operation of the concrete mixers and the dust from the materials used reduced the effectiveness for office use of the space presently assigned to the Department. Under the office of the Dean of the College is located the Engineering Laboratories for testing motors and other power equipment. The noise at times is somewhat disconcerting. The entire atmosphere is quite depressing for the men who occupy the location and unsatisfactory for student conferences.

Bureau of Business and Economic Research

The following statement summarizes the accomplishments of the Bureau during the biennium. The publications have been received with high commendation from sources throughout the nation.

1. Publications through September, 1948

Vol. 1, No. 1 An Economic Survey of Allegany County, Maryland June, 1947
No. 2 Maryland Business Barometers, August, 1947
No. 3 Building Activities in Maryland and Vicinity, December, 1947
No. 4 Inflation—Problems and Proposals, February, 1948

Vol. 2, No. 1 Anne Arundel County, Maryland; Its Economic Development and Potentials, June 1948
No. 2 Sizes of Price Samples (for Different Commodity Groups) Maryland and Baltimore Non-Agricultural Employment

Miscellaneous
"Maryland Industrial Income Payments", Maryland, University of Maryland, June, 1947
"A Retail Market in One Economic World", Journal of Retailing, New York University, December, 1947

2. Cooperation with Maryland Government Agencies

The Bureau has exchanged services with the Maryland State Office of Information, Maryland Board of Natural Resources, Maryland Unemployment Compensation Board, Department of Labor and Industry, Department of Employment and Registration, Office of Old Age and Survivors Insurance, State Health Department, Maryland Department of Research and Education, Maryland Department of Tidewater Fisheries, Agricultural Extension Service Soil Conservation Service; the County Governments of Allegany, Anne Arundel, Prince Georges, Washington, Montgomery, Calvert, Baltimore, Wicomico; City Governments of Baltimore, Annapolis, Cumberland, Hagerstown, Bethesda, Hyattsville, Towson.

3. Cooperation with Maryland Business Concerns and Groups

By letter and personal visits, and long distance telephone the Bureau has provided information to many individuals and representatives of groups,—chiefly regarding resources, manufacturing, transportation, employment, building and construction, prices, cost of living, business failures, taxation, water pollution, and recreation. But, in addition, requests regarding identification of experts in various fields, and even the interest rates on personal loans, and analytical methods, have appeared among inquiries.

A special service has been undertaken to provide business groups, particularly associations of commerce, trade associations, banks, newspapers and research units of business concerns, with information on request. This originated with the reference to the Bureau of requests received by local

chambers of commerce and agencies of the Federal Government. When possible, the data are duplicated to conserve staff time, and kept current by supplementary entries.

However, the Bureau does not have facilities to undertake research projects of interest only to an individual or single concern.

4. Cooperation with Federal Government Agencies

Close association with technical persons in the Federal Government has resulted in mutual advantage. The Bureau has received considerable special data compiled for it.

5. Training of Students

Through opportunity to participate in the laboratory and field work of the Bureau, a group of advanced students each year receive practical training in business and economic research, aiding their preparation for life work.

The University of Washington, Seattle reports that the University of Maryland publications are used regularly as text material in advanced courses in statistics.

6. Exchange with Other Countries

Requests for the Bureau's publications have been received from the United Nations, International Labor Office, Canada, Mexico, Chile, Argentina, Cuba, Brazil, England, France, Netherlands, Austria, Sweden, Denmark, Poland, India, and China.

7. Recognition by National Organizations

Upon organization in 1947 of the Associated University Bureaus of Business and Economic Research by research units of 43 American universities, the University of Maryland became national headquarters through election of the Bureau director as secretary-treasurer. Exchange of experience among members is helpful in improving the standards and efficiency of bureaus. The University of Maryland Bureau and the U. S. Department of Commerce were joint hosts for the October, 1947 meeting. The University of Michigan is the 1948 host.

The Bureau director was requested by the Board of Directors of the American Statistical Association to arrange the program sessions on business statistics for the annual December meeting in Cleveland. He was also designated chairman of the session at which organization of a business statistics section of the Association will be consummated.

Future Program

Few non-university concerns,—private or public,—undertake the difficult task of analyzing regional and local conditions and potentials. There are several reasons: 1. Factual data are more readily available in published form on a national scale; local data must be assembled. 2. With extensive coverage of quantitative data, less refined analytical methods are necessary to approximate accuracy, and inferences are speedier. 3. The national audience is larger and the profit return greater. 4. Many technicians are

working in the national field and the composite of their studies offers a considerable volume of material as well as extensive checks of validity.

It is planned to continue pioneering in studies of the (1) relative significance and interrelations of a factor in local and regional business and economic welfare; (2) potentials for development of Maryland's human and material resources; (3) methods for more adequate analysis of the patterns of current conditions and possible projection of their tendencies into the future.

As a cooperative enterprise, private and public individuals, concerns and organizations, share with the University the opportunity to analyze common problems, to plan developments, and to avoid economic waste. This involves access to and assembly of data, exchange of experience and opinion, presentation of conclusions and discussion of their validity, conference on means of application,—a continual mutual interchange.

Bureau procedure offers an excellent laboratory and field training for students already versed in basic courses in economics, statistical and accounting methods, banking and finance and marketing.

In addition, the Bureau staff looks forward to greater participation in the academic schedule through the teaching of advanced and specialized courses, and the development of seminars in research methodology.

Research Program Illustrated

As indicating planned research, the following topics are listed, without suggestion of priority:

1. Indicators of Business Conditions in Maryland; a start was made in Vol. 1, No. 2, of Studies in Business and Economics.
2. Comparative Development of the Ports of Baltimore and Philadelphia.
3. Maryland's Participation in Foreign Trade.
4. County and Community Studies: extension of analyses illustrated by the Allegany and Anne Arundel area studies.
5. Significance of Baltimore as a Metropolitan City in the Triangular Region, Philadelphia, Baltimore, Washington.
6. Market Areas, with present concentration upon testing methods, evaluating factors, and indicating lines of demarcation. The Annapolis-Baltimore area is under consideration.
7. Relative Importance of the Components in the Cost of Living.
8. Tendencies and Factors in Stability and Liquidation of Business Concerns.
9. Recreational Facilities and Opportunities in Maryland.
10. Maryland and the Seafood Industry.

Department of Economics

Accomplishment

The rapid growth of student interest in the field of Economics has been very evident in the work of the Department. In the 25 course-offering for the last college year, 1947-48, individual student-registrations totalled

5,310. The unprecedented load of work gave rise to special problems of recruitment of staff, advisement of students, and maintaining standards of performance. These problems were met successfully largely because of the high degree of cooperation and esprit-de-corps, on the part of both staff-members and students, which it has been possible to produce in the Department despite its increasing burden of work.

The groundwork for the expansion of graduate work has been given particular attention. This has involved active collaboration with the graduate school in the admission of applicants to graduate study and guiding the study of advanced students of the other departments of the University who are offering Economics as one of their fields for the M.A. or Ph.D. degree, as well as concentrating upon the primary concern of the Department in the promotion of its graduate program. This concern is a threefold one: the selection well-qualified graduate students, the stimulation of the interest by capable students in the continuation of their studies into the advanced fields, and the development of graduate courses within the departmental curriculum which are more adequate both in number and in quality than they have been heretofore.

The Department has cooperated in the University's service to the community. This has been mainly in connection with the work of the College of Special and Continuation Studies and that of the inspection and advising of the work of the junior colleges in the field of Economics. The Department welcomes every opportunity to increase its services to the State in these and other fields of service since it is convinced that the significance of such service is much greater than what may at first be apparent.

Future Plans

The future plans of the Department relate mainly to the staff, the undergraduate courses, and the graduate work.

Concerning the staff, it is highly desirable that the Department should require a higher degree of qualification, particularly for those of the instructor rank than now prevails. This qualification should include the completion of the graduate work (inclusive of the Ph.D.) and at least one year of professional work (teaching and for business), as minimum requirements in order that the undivided interest and effort of the staff member may be demanded. This would necessitate a very considerable increase of the salary in order that such well-qualified personnel be attracted from competing institutions, business enterprises, and governmental agencies. Greater qualification and experience have become increasingly necessary not only because of the increase in the size of the classes but also the growth in the complexity of the subject-matter in the field of Economics.

Regarding the undergraduate courses, it is the plan of the Department to develop a greater integration and more effectiveness in the presentation of these courses. Preparation of mimeographed outlines and syllabi in advance of lectures, group meetings of instructors in multiple-section courses, staff meetings for the Department as a whole will be required with greater frequency in order that the work of each instructor may re-enforce the other.

With reference to the graduate work, greater attention will be given to the courses in the "200" classification. The marked growth in the interest in graduate work in the Department of Economics makes it necessary to give consideration to the following suggestion. Members of the staff who by the possession of the Ph.D. degree, experience, and rank are qualified to conduct 200-courses and for seminar be relieved of one undergraduate class and be required to offer a graduate course (or seminar) each semester in the field of his specialization. This, in turn, would require an expansion of the junior-staff and a commensurate increase in the departmental budget.

Department of Geography

The Department has spent during the past year more than $100,000, of which about half came from the University and half indirectly from the Office of the Quartermaster General of the War Department. All of the funds from the War Department can be assigned to research. About $20,000 of the $60,000 University funds were also spent on research. Contributions from the Bureau of Mines, Bureau of Agricultural Economics, and Office of Foreign Agricultural Relations will add probably $15,000 more to cost of research work in progress in the Department of Geography, --i.e., about $90,000 on research in all.

I. Atlas of the World's Agricultural and Mineral Resources

The outstanding accomplishment of the year is the progress on the part relating to the mineral resources of the world. A dummy was drawn up and approved; a plan was made for textual treatment; and a sample copy, based upon one mineral, was worked out.

Under the financial agreement with the Bureau of Mines, and in cooperation with their staff and ours, a total of 53 maps for minerals have been made. Textual material is being prepared.

On the agricultural part of the Atlas, a few maps pertaining to North America were finished, thus putting into finished form all North America maps, except those relating to land utilization which are being prepared by the Bureau of Agricultural Economics for publication in colors, the cost to be borne primarily by that Bureau.

26 maps have been completed pertaining to crops in China. Many of these will be published as such in the Atlas, others are needed for the maps of Southern and Eastern Asia, in the Atlas.
18 maps have been completed pertaining to India.
8 maps pertaining to Southern and Eastern Asia.
20 other maps pertaining to the agricultural part of the Atlas have been completed, making a total of about 75.

Arrangements have been made with the Office of Foreign Agricultural Relations for use of original maps of Europe, prepared by them. As soon as these are received, the data will be transferred to our base maps. This will complete most of the continental maps.

II. Research Projects for the Department of the Army

The Department has three cooperative research contracts with the Department of the Army, Office of the Quartermaster General:

The "Artic Project" for about $12,000.
The "Microclimatological Project" for about $21,000.
The "Desert Project" for about $22,000.

The Artic and Desert Projects will be renewed after present funds have expired, which will be some time in November or December, 1948. Thus additional funds will become available for continuance of these two projects. After December, 1948, the Microclimatological Project will be continued in restricted form until June 30, 1949.

The Russian Arctic Project

This project has resulted in the publication by the Department of the Army of an extensive annotated bibliography pertaining to land forms, permafrost, and vegetation of European Russia. Two reports dealing with land forms and vegetation are nearing completion and probably will be published before the end of this calendar year. One geographer with the rank of Research Associate, one translator and scientific collaborator with the rank of Research Assistant, and one secretary are working on this project.

The Microclimatological Project

This project has resulted in the publication by the Department of the Army of an annotated bibliography on instrumentation and methodology for microclimatic purposes and a second bibliography dealing with microclimatic investigations. An Extensive Report on the first phases of this project is finished and probably will be published by the Department of the Army before the end of the calendar year. One climatologist with the rank of Research Associate, one translator, and one secretary have been working on this project.

The Desert Project

This project has resulted in the publication by the Department of the Army of an annotated bibliography on the environment of desert and semi-desert areas of western Africa. Two extensive reports on the first work phases of this project have been finished and probably will be published by the Department of the Army before the end of this calendar year. Three geographers with the rank of Research Associates have been working on this project together with one secretary. The projects are continuing.

III. Atlas of China

This Atlas is being prepared in cooperation with the National Central University in Nanking. This Atlas was started three years ago with the preparation of 28 climatic maps, based on new data, by Dr. Huan Yong Hu, Dean of the Graduate School of National Central University, while on leave of absence. The work was continued during 1946-47 by Professor Lee, Head of the Department of Geography, on leave from the University in Nanking. He prepared about 40 crop and livestock maps based on data copied from the government files by a colleague in that University. Dr. C. Y. Hu took over the Atlas work a year ago and makes the following report:

1. Checking and a partial revision of the 28 climatic maps already compiled.
2. Complete reworking of 3 climatic maps already compiled.

3. Maps newly compiled and completed, 55 in all.
4. Climatic graphs completed, 256 (183 average monthly temperature and precipitation graphs and 73 of precipitation only).
5. Precipitation charts for the 20 stations with the longest records varying from 30 to 65 years.
6. Precipitation charts for 21 selected stations with simultaneous records of 30 years (1899-1930).
7. Monthly temperature and precipitation for each of the 14 major selected stations.
8. Seasonal distribution of precipitation for 21 selected stations.
9. Potential evaporation charts for 45 selected type-stations.
10. Precipitation charts of 65 selected stations showing the fluctuation of annual rainfall.
11. Relief profiles along 23 critical parallels and meridians of China.

The China Atlas will supply more detailed, hence larger scale maps of climate, land surface and soils than those in the World Atlas, likewise more detailed maps for agricultural and mineral resources. This Atlas of China will be used by the Departments of War, State and Agriculture (which are providing much of the data) as well as by universities teaching courses on the Far East. We cannot give an adequate course on the resources of China until these Atlas maps become available.

IV. Studies in the Geography of Latin America

1. The summer of 1947, Dr. Crist spent in Puerto Rico completing studies on the static and emerging cultural landscape in the British West Indies. He gave a paper on this subject at the Charlottesville meeting of the Association of American Geography in December, 1947. The summer of 1948 has been spent in the Dominican Republic and Haiti, under a fellowship from the Social Science Research Council. Dr. Crist presented a paper in September, 1948 at a conference on conservation of resources in Latin America in Denver at the invitation of the U. S. Department of State.
2. A monograph on the Cauca Valley, Colombia, is ready for publication.
3. A series of articles on sugar cane and coffee in Puerto Rico is appearing in the *American Journal of Economics and Sociology.*
4. An article on the geographic background of the personality of Latin America is nearing completion.

Teaching

Roughly two-thirds of University funds allottted to the Department of Geography are devoted to teaching. The Department gave 39 courses, of which 9 were open for credit to freshmen and sophomores only, 17 to advanced undergraduates and graduates, and 13 to graduate students only. About half of the courses were in scientific subjects (climate, geomorphology, etc.) and half were regional in content. Classified by continents six courses related to United States and Canada, five to Latin American, three to Europe, four to Southern and Eastern Asia, and one to Africa. The two courses on the resources of the USSR were not offered for lack of a competent teacher. It is expected that this serious gap will be filled in 1949.

Of those individuals taking geography courses this past year, about 1,200 were freshmen and sophmores, about 130 were juniors and seniors, and 33 were graduate students. 21 of these 33 are majors in geography, and 10 of these 21 held assistantships or University fellowships.

In cartography the courses offered in the Army Map Service under our direction make our department outstanding. With Mr. Karinen, the new Assistant Professor of Cartography, offering a general introductory course on the campus, we should be able to attract students from all sections of the nation. If a seminar can be given in the evening, as planned, we would doubtless have many students coming also from government agencies in Washington.

We offered the past year graduate evening seminars in climatology, in geomorphology, in geography of Southern and Eastern Asia, and in land utilization and agricultural geography. These evening classes not only enabled government employees to come out from Washington, but also released rooms for day time use for undergraduate classes.

The Department has moved into the former Education Building and has been able to provide its staff with office space on the second floor and in one room in the basement. In these twelve rooms there are now desks for 33 employees, of whom 10 are in War Department projects.

The Department of Government and Politics

The Department of Government and Politics has done an altogether acceptable job to teaching a large number of students during the past biennium. Its professors have written books and articles and participated in the affairs of the learned societies in the field. Professor Ray has been elected to the executive committees of both the American Political Science Association and the Southern Political Science Association. Professor Burdette is now completing the editing of the Directory of the American Political Science Association. Professor Mauck has conducted a regular section each month in the **National Municipal Review** on county government. Professor Burdette has been named editor of the political science series of the D. Van Nostrand publishing company. Professor Steinmeyer has made approximately 50 speeches each year in various parts of Maryland. Professors Ray and Burdette are under contract to publish a textbook in American Government. Assistant Professor Plischke, who is new to the department in September, 1948, is also under contract for a textbook, in the field of American foreign relations.

The Department's future calls for certain specific advances. The time of the professors is too much taken with details. For this reason additional graduate and undergraduate student assistance is imperative. The large number of lower division students is moving to the higher division, and the resulting large classes on the advanced levels necessitates expansion at the advanced ranks. This is in explanation of the requests for additional teachers in the assistant professor and associate professor ranks. Professor Mauck is only part time with the Department this year. If he should return full time, or if he should resign and it should become necessary to refill his position, then it is desired to place the position half in the Department of Government and Politics as professor and half as director of the Bureau of Public Administration. This change would enable Professor Ray, whose

efforts have become too extended for their effective discharge, to concentrate on the headship of the Department of Government and Politics and on the new job to which he has recently been chosen, Executive Secretary of the Maryland League of Municipalities. This latter function is considered extremely important as a major avenue for making the Department and the staff members of it mean more to the local governments of Maryland.

The Bureau of Public Administration

The Bureau of Public Administration has published and disseminated the following local governmental survey reports during the last biennium:

Improving the Government of Hagerstown.
Improving the Government of Cumberland.
Improving the Government in Dundalk.
Improving the Government of Takoma Park.

In process are two more such reports: (1) Improving the Government of Pocomoke, which is now in galley proof, and (2) Improving the Government of Wicomico County, which is now ready for the printer.

Two studies in general local governmental research published by the Bureau are (1) Small Government Career Service, A Manual for Maryland and (2) Maryland Fiscal Scene.

The Bureau has done many services for local government. For example, it drafted a charter for the City of Hagerstown, worked with the Charter Committee of the City of Cumberland, and helped Takoma Park to install its merit system for city employees.

The future plans of the Bureau necessarily are involved in the person of its director. Its present director, Joseph M. Ray, has recently been chosen as Executive Secretary of the newly revived Maryland League of Municipalities. This is a very important development in the University's relations with local governmental officials. It will succeed only in the measure in which the Executive Secretary can give attention to it. It is considered wise, therefore, for Dr. Ray to relinquish the direction of the Bureau so that he may devote more time to the League. This can be done by having the person in Dr. Mauck's position in the budget of the Department of Government and Politics divide his time between teaching and directing the Bureau.

Department of Office Techniques and Management

During the biennium, the Department experienced an unprecedented demand for courses from students enrolled in the College of Business and Public Administration and in other colleges on the campus. Part of this demand results from the increased enrollment in the College of Business and Public Administration and part from the recognition by the student body and faculty that this Department is in a position to contribute materially to the development of a well-rounded vocational outlet for college graduates.

The Department has been given more classroom space, and through the collection of laboratory fees has been able to maintain the equipment in good condition and at the same time add new equipment with an estimated value of $3,192.00.

In a growing organization there are enumerable problems of: (a) adapting course content in order to maintain high standards of achievement and performance when handling larger numbers, (b) providing enough sections with a limited staff to meet heavy student demand for these courses. The balancing of these factors has been achieved quite satisfactorily up to this date; however, the problem remains with us as there is considerable evidence that indicates no immediate reduction in student requests for work in this Department. Experience accumulated over the past 20 years indicates that work of the type offered by this Department is in greater demand when employment is not at the maximum level.

The statistics given below present concisely the growth of the Department in terms of number of students each year:

No. of Classes per Year	No. of Students Enrolled	Average No. per Class
1946-47		
Secretarial—17	374	22
1947-48		
Secretarial—24	600	25
1948-49		
Secretarial—28	840	30

All members of the staff have advanced professionally by doing additional work toward advanced degrees. During this biennium they have served and are currently attempting to serve the University, Citizens of the State and Professional Association by:

a. Planning, organizing, and directing Office Management Institutes on the College Park campus.
b. Serving as President of the Washington Chapter of the National Office Management Association.
c. Appearing before groups of businessmen as a major part of the program on six different occasions during the past year.
d. Serving as Chairman of three committees of Business Teachers Association at the National level.
e. Directing research for the Business Entrance tests that are sponsored by the United Business Education Association and the National Office Management Association.
f. Giving direction and leadership expected by county groups of business teachers for the improvement of training at the pre-college level.

In the future, it is expected that the Office Techniques program will be called upon to provide training for nearly double the present enrollment. The Office Management program is the major field for further development. Because of the increased paper work and the acceptance of specialized office procedures in the complexities of modern business, businessmen are currently looking toward the Universities for men professionally trained in the administration and management of their office work.

In view of the experience of this biennium, it seems reasonable to anticipate that the demand for the services of the Department of Office Techniques and Office Management will continue growing and that these services will improve within the next two years provided the necessary staff, space, and equipment are available.

College of Education

HAROLD BENJAMIN, *Dean*

THE period from July 1, 1946, to June 30, 1948, covered the first complete biennium since the close of World War II. This period was characterized by increasing enrollments in the college and by expanded services to the schools and to the communities of Maryland and neighboring areas. These developments have necessarily been accompanied by an increase in staff.

Enrollments

The increase in the instructional tasks of the College is shown by the following figures for this and for the preceding bienniums:

Year	Undergraduate Enrollments
1944-45	252
1945-46	425
1946-47	661
1947-48	867

The graduate work in Education is best indicated by the number of graduate degrees awarded each year to students majoring in Education:

Year	Master of Arts	Master of Education	Doctor of Philosophy
1944-45	3	13	....
1945-46	3	8	....
1946-47	10	39	3
1947-48	16	70	....

Field Services in Education

In 1947, the Institute for Child Study under the directorship of Dr. Daniel A. Prescott, was established as a part of the College of Education. During the years 1947-48, the Institute carried on a field program for approximately 7,500 teachers, of whom about half were in various districts of Maryland and the remainder were in other states and in the District of Columbia.

The professors of the College of Education worked at a tremendous variety of field jobs during the biennium. One member of the faculty, for example, developed a master plan for school building programs in three counties of Maryland, Garrett, Frederick, and St. Mary's, served also as a consultant on salary schedules for the Board of Education of the City of Baltimore, as consultant on a survey of the Loudoun County, Virginia, school system, and as consultant to County Councils of Parent-Teachers Associations and other civic groups on studies of attendance, buildings, curriculum, and financial support. He was largely instrumental in setting up a program of internships in school administration whereby graduate students carried administrative responsibilities under a definite program of guidance from the University. Although this kind of program has been much discussed in American education, it is believed that the University

of Maryland is the first institution to set up the program upon this basic of definite administrative responsibility for the graduate student.

Other professors helped conduct a cooperative work-survey of adult education in Baltimore and edited the report on the survey of college extension programs, acted as consultant to the Baltimore Association of Commerce on a survey of vocational education, and as consultant of the Maryland Department of Public Welfare institutions on a survey of industrial education, spoke at parents meetings and teachers meetings in all sections of the State, and in most sections of the United States, acted as consultants for the United States Office of Education, the various armed forces of the United States, and other federal and state government agencies. One professor served as a consultant to the United States Military Government in Germany and Austria in 1947, and another served with the same organization in Germany in 1948. A third professor helped the Army study the curriculum of the Command and General Staff College in 1947, and acted as a consultant to the Army on the selection of educational personnel for the occupied territories in Europe and in Asia.

Publications of the Faculty

The Education faculty published four books and approximately fifty articles in professional journals during the biennium. Editing jobs of various professors in Education included the associate editorship of the United Business Education *Forum,* the education editorship of the *Handbook of Latin-American Studies,* the editorship of the *Eleventh Yearbook of the John Dewey Society,* service on a committee of the American Association for Adult Education to prepare a new bibliography in that field, industrial arts editorship for the American Vocational Association Journal, consulting editorship of the McGraw-Hill Series in Education.

Professional Organizations

The College of Education is a charter member of the American Association of Colleges for Teacher Education, established in 1948, which includes teachers colleges and schools and colleges of education in universities. This organization is designed to carry on research, to study and apply standards of teacher education, and to act as a central agency for the discovery and implementation of improved practice. A member of the Education faculty is the representative of the association in the foreign relations field and acts as a liaison agent for the association with the United States Department of State.

Members of the faculty were active in all the main professional organizations of the State and Nation both in general education and in the subject matter fields. Their positions ranged from local to national and international assignments. One of the staff served as chairman of the Education Committee for the Governor's Commission on Racial Relations in Maryland, another served as chairman of the National Education Association's Commission for the Defense of Democracy Through Education, a third was national secretary of Phi Sigma Pi fraternity, a national organization for students of education at the undergraduate level.

Future Needs of the College

The future needs of the College of Education can best be described in terms of the services which the college should be able to render and is not now equipped to give. If the college becomes capable of giving these services to the citizens of Maryland and the nation for its schools, the necessary space and facilities will not be hard to secure.

The first great need of the College of Education is to develop a program whereby local communities and sections of larger communities are studied educationally as carefully as the Institute for Child Study now looks at the characteristic growth and development of each child in its field program. This will mean that the parents and the other members of the community will have to be brought into this program. The University now has, with its new, well organized, and well administered College of Special and Continuation Studies, together with a small but unique group of education specialists in the College of Education, a combination which no other university in this country has for making unique and revoluntionary contributions to the improvement of community education systems. The college has asked for additional people to begin working out a preliminary parent-education undergraduate training in the necessary techniques of developing this community study and the additional help in general education to implement such a program.

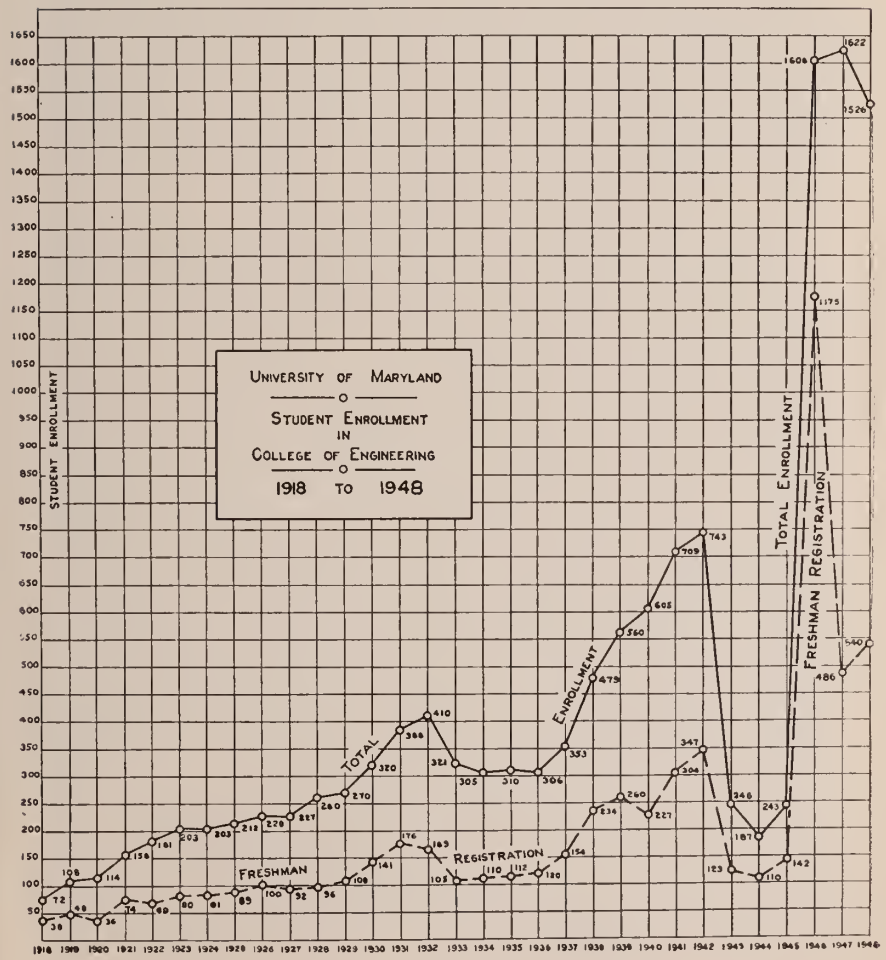
The second main need of the College of Education is to give the young people of Maryland who wish to specialize in education a much more advanced and modern type of preparation than they can now readily secure. One of the fields in which the United States is bound to be short of expert help for many years to come is the international field. The College of Education, together with the College of Arts and Sciences, the College of Business and Public Administration, and the College of Engineering, to name only a few examples, must study international problems in various areas and prepare graduate students at the University of Maryland who will be expert in those areas. The United States for many years to come is going to have to furnish skilled people in international education as well as in international trade, international diplomacy, international security, and every other area in which the peoples of the world are going to have increasing need for expert guidance.

College of Engineering

S. S. STEINBERG, *Dean*

THE period covered by this report was one of the most strenuous in the history of the College of Engineering. Large enrollments of returning veterans presented serious problems in classroom and laboratory space, and in securing additional faculty members at a time when all other institutions were in similar need. However, these problems were solved, the academic program was maintained on a high level, and the scholastic work of the student body continued to improve. Many new graduate courses were offered both on and off campus, and a number of new research projects were undertaken.

The most important development of the biennium was the commencement of construction on the three units of the new Engineering Buildings



to supplement the Wind Tunnel, whose construction and installation were completed. Considerable additional equipment was purchased and much war surplus property secured which enabled us to provide increased laboratory facilities necessary for instruction and research.

These accomplishments would not have been possible except for the loyalty, the fine spirit of service, and the extra efforts of all the members of the faculty and staff.

Student Enrollment

The total enrollment in the College of Engineering reached a record high of 1,606 in October, 1946; and even that was exceeded in October, 1947, when the total enrollment reached 1,622. The freshman enrollment in Engineering in October, 1946, reached its peak of 1,175 students, an increase of 727 per cent over the previous year, and an increase of 237 per cent over the maximum number of freshmen ever previously enrolled in Engineering, namely, that in October, 1942. Due to the record freshman enrollment, and the large total enrollment in the fall of 1946, it was necessary to limit the number of entering students in Engineering in the fall of 1947 with preference being given to applicants from Maryland high schools. These record enrollments during the biennium are shown graphically on the attached chart which also gives the enrollment figures in the College of Engineering for the past thirty years.

Department of Chemical Engineering

This biennium was marked by the heavy wave of returning GI students in the undergraduate classes and the stimulation of graduate study under government aid, the development of plans for and the initiation of construction of the new Chemical Engineering building, and the acquisition of important war surplus equipment.

The staff, depleted by the war years, faced an unprecedented load, and much time was spent in recruitment. There is an extreme national shortage of faculty personnel qualified in Chemical Engineering. Dr. Joseph S. Smatko, who holds his Ph.D. Degree from Columbia in this field, has been appointed Assistant Professor of Chemical Engineering to develop an option in undergraduate and graduate electrochemical engineering. Dr. Victor H. Gottschalk (Ph.D., University of Chicago), formerly head of the Department of Chemistry at the Missouri School of Mines, and senior physicist with the U. S. Bureau of Mines, has accepted a one-year appointment as Assistant Professor to develop a chemical engineering option in Metallurgy. There will be four Ph.D. men on the staff in Chemical Engineering beginning in September, 1948. Mr. Joseph H. Bilbrey, Jr., who received the degree of Bachelor of Science in Chemical Engineering at Maryland in 1942, has been appointed instructor. Mr. Bilbrey pursued graduate work in this field upon his return from the armed forces.

Five bachelor's degrees were awarded in Chemical Engineering in 1946, seven in 1947 and nine in 1948. One of the 1948 graduates was a woman, the first woman to complete the undergraduate curriculum in Chemical Engineering. The Department awarded a Ph.D. degree and a M.S. degree in 1948. The doctorial thesis was on an improved method for the acid

decomposition of certain silicates, and the master's thesis was on the effect of temperature upon the action of ion-exchange media. Other researches of the Department will be included in the report of the Engineering Experiment Station; of which the head of the Department of Chemical Engineering is Director.

The Research and Development Laboratories of the Army Engineer Corps requested Dr. Huff to submit a proposal for a research contract on the investigation of electrical blasting, and have tendered such a contract, bearing an annual fund of $15,000, the work to begin July 1, 1948.

Dr. Huff continued to serve as Consultant Chemical Engineer to the Bureau of Mines, working chiefly on coal carbonization, synthetic liquid fuels and explosives, with some work on corrosion. He was also appointed a consultant to the Department of Commerce in 1946-1947 for assistance in connection with proposed federal aid to investigate and develop commercial inventions. The Technical Command, Army Chemical Center has been authorized to employ him as an educational consultant, and he has been in active cooperation on problems in graduate education for members of the Army Chemical Corps. He has also cooperated actively with the Army-Navy Explosives Safety Board. The Bureau of Mines, Army-Navy Board on the Storage of Smokeless Powder, of which Dr. Huff was Chairman, exploded an igloo containing 288,850 pounds of smokeless powder at the Naval Proving Ground, Arco, Idaho, in October, 1946, and completed its assignment by reporting to the Secretaries of War, Navy and Interior its observations and conclusions and in due course was discharged. Dr. Huff also observed high explosives storage tests at Arco in October, 1946, in which igloos containing 250,000 to 500,000 pounds of high explosives were detonated. Dr. Huff served on the Chemical, Accident Prevention, and the Organic Sulfur Committees of the American Gas Association. In the Chemical Committee he served as Chairman of the Subcommittee on Chemical Aspects of Accident Prevention and submitted two extended reports that received favorable comments in the Association and from other industrial quarters. He also served on other sub-committees of the Chemical Committee chiefly on publications and laboratory methods and wrote a chapter of the book "Gaseous Fuels".

Dr. Huff is a consulting member of A. S. T. M. Committee D-3 on Gaseous Fuels and served on a number of its sub-committees.

On invitation from the Southeastern Section of the American Society for Engineering Education, Dr. Huff on March 2 addressed the 1948 meeting of this Section at the University of Florida, Gainesville, on the subject: "Four Year versus Five Year Curricula in Chemical Engineering".

Dr. Donald T. Bonney gave major attention to the acquisition of war surplus equipment, cooperating actively with the Federal agencies charged with this distribution. Included was much out-of-town service for the benefit of many of the other Departments of the University as well as Chemical Engineering. He also gave unstintingly of his time and thought in the planning of the new Chemical Engineering building.

The Department has a thriving student chapter of the American Institute of Chemical Engineers. Dr. Huff is an active member of the national body. In 1935, he called the meeting in his own home that founded the Maryland Section. He is also a member of the Washington, D. C. Society of Chemical Engineers, and a member of its committee on legislation. He has been asked to become Chairman of this Committee.

Department of Civil Engineering

The undergraduate teaching load in this Department was increased greatly during the biennium, particularly in Surveying courses, because of the service this Department gives all other Engineering departments in this field.

During the biennium, the faculty in Civil Engineering was greatly strengthened by the addition of teachers particularly qualified by training and experience in the fields of Soils Mechanics, Sanitary Engineering and Testing of Materials. These additions have resulted not only in better undergraduate instruction, but will make possible new graduate courses, which will be offered as soon as the additional facilities in the new Engineering Buildings become available.

A cooperative project between this Department and the Corps of Engineers, War Department, on Soils Stabilization was put into operation during the biennium. A temporary laboratory structure was erected on the campus and special equipment designed and installed. Researches have been inaugurated in this laboratory that will be of great value in the design of highways, airports, and other structures. This project has attracted nation-wide attention.

This Department has been closely identified with the design, construction, and layout of the new Engineering Buildings. Professor R. B. Allen, who is serving as coordinator for the new buildings, has been doing an excellent job in the correlation of the laboratory and other new facilities in all departments of Engineering. During the summer of 1948, faculty members of this department directed undergraduates in Civil Engineering in a Surveying program of institutional buildings for the State Bureau of Public Improvements. The project provided for topographic surveys, surveys of underground structures and property surveys, the results of which are being utilized in planning new improvements to the State institutions.

During the year, Dean Steinberg, Head of the Department, was elected for a two-year term Vice President of the American Society for Engineering Education and President of its Engineering College Administrative Council; was appointed Chairman of the Advisory Committee on Engineering Publications of the National Research Council; Chairman of the Committee on Accrediting of Latin American Engineering Schools of the Engineer's Council for Professional Development, the national engineering accrediting agency; and Chairman of the Maryland Committee on Water Pollution which secured the enactment of a State Water Pollution Act by the 1947 Maryland Assembly.

During the biennium, Professor Allen served as Vice President of Tau Beta Pi, the national honorary engineering fraternity, and upon retirement from that office was appointed its Alumni Representative.

Department of Electrical Engineering

The unprecedented undergraduate enrollment in Electrical Engineering has taxed the facilities of this Department throughout the past two years. Sophomore and Junior Electrical Engineering Students now number more than 250 whereas in previous years they numbered about 40 or 45. As these Students are advanced into Junior and Senior years, our present laboratory space and equipment becomes entirely inadequate. Much of our present electrical machinery dates back to the establishment of the Electrical Engineering Department in 1907 and should be replaced because of obsolescence and deterioration. Temporary laboratories have been installed to meet the emergency although the installation of these laboratories has taken faculty time and energy which otherwise would have been devoted to research work.

Noteworthy research work was, however, done in the fields of multiple tuned circuits and diode operation. A contract has been entered into with the Navy for research work in the field of "magnetic amplifiers" to replace vacuum tube amplifiers in automatic pilots. Lack of space has curtailed this latter project to some extent.

During the biennium, two text books were written by members of this Department to meet the needs of the post war period: "Basic Electrical Engineering" by George F. Corcoran, Head of the Department; and "Communication Circuits" by L. A. Ware and H. R. Reed, the latter our Professor of Electrical Engineering. Both these text books are published by John Wiley and Sons and will supplant prewar texts which were used in many universities during the last six or eight years. Professor Corcoran also delivered a paper entitled "Mathematics in Electrical Engineering" at the 1947 annual meeting of the American Society for Engineering Education. He has prepared another technical paper for publication in the near future.

The graduate enrollment in Electrical Engineering continued to increase and the quality of the research work done by the graduate students was the best in the Department's history. Most of the students in the graduate program are employees of the Bureau of Ships of the U. S. Navy, Naval Research Laboratory, Naval Ordnance Laboratory, and Patuxent (Md.) Naval Air Base. Ten Master of Science Degrees in Electrical Engineering were given at the June, 1948, Commencement, and indications are that this number will be doubled next year. Space in which to perform research work is our greatest need and, until the new Engineering Buildings are completed, we can accept no more full time graduate students in Electrical Engineering unless they can arrange to do their research work off campus.

The most important advancement made by the Department during the biennium was the introduction of new graduate courses which will make possible the granting of the Ph.D. Degree in the field of Electrical Engineering. A complete reorganization of the graduate courses is planned with a view toward training students to do better fundamental research.

An important addition to the faculty during the biennium was Professor H. R. Reed, formerly Chief Telephone Engineer with Stromberg-Carlson, who was appointed Professor of Electrical Engineering in September, 1947. This appointment makes possible expansion of the graduate work in the Department.

Department of Mechanical Engineering

Due to the increased enrollment, it was necessary to expand the laboratory facilities in this Department. This was done by converting the former Aeronautical Laboratory into a Thermodynamics Laboratory. A major research project entitled "Cooling of Gas Turbine Blades with Air", was undertaken during the biennium in cooperation with the Office of Naval Research which was conducted by Professors C. A. Shreeve, Jr., and H. R. Martin. This work required close contact with all branches of the armed services, the National Advisory Committee for Aeronautics, and the major gas turbine manufacturers. Through this project, the Department obtained an I-16 General Electric Turbo-jet in good condition which will be useful in our Engine and Gas Turbine Laboratory.

The program of off-campus courses in Mechanical Engineering for the Naval Research Laboratory, the David Taylor Model Basin, and the Naval Ordnance Laboratory, initiated in 1945, progressed satisfactory through the biennium.

In recognition of his services as Executive Secretary of the Aviation Division of the American Society of Mechanical Engineers for five years, Dr. J. E. Younger, Head of the Department, was presented with a certificate by the Society. During the biennium, Dr. Younger resigned his position as Professor and Head of Mechanical Engineering to become a consultant to the Brazilian Air Ministry. However, in the Spring of 1948 arrangements were made for his return to his former position to take effect September 1, 1948. During Dr. Younger's absence, Professor Shreeve served capably as Acting Head of the Department.

Professor Shreeve was appointed to membership on the Gas Turbines Committee of the American Society of Mechanical Engineers; and was elected a member of the Board of Directors of the Washington section of that Society.

Wind Tunnel Operations Department

The wind tunnel laboratory has progressed within the biennium, from the early stages of construction to initial operation. Work is presently under way on the calibration of the air stream and the wind tunnel balances. Upon completion of the calibration, wind tunnel tests will be conducted for the aircraft companies and the military services. A contract has been signed with the Glenn L. Martin Company which covers over half of the available operating time and negotiations are under way with the Navy for one or two months of the remaining time.

The staff has increased from one to nine full-time members and two part-time student helpers. The staff is engaged in the construction of calibration instruments, the establishment of International Business Machine computing procedures, the renovation of war surplus equipment and the extensive modification of the wind tunnel balances as well as airstream and balance calibration.

Engineering Experiment Station

The Engineering Experiment Station needs office space, secretarial staff, research funds, and subsidies for publications. Its work has been possible only by virtue of the self-sacrificing interest of members of the instructional staff in Engineering, who carry on research work in addition to their present heavy teaching loads.

Industrial researches by the staff during the past two years have included consultations and experimental studies, many in cooperation with government agencies. Among the topics have been (1) the manufacture of synthetic liquid fuels in a program to supplement insufficient petroleum supplies, including work on the gasification of powdered coal and underground gasification of coal in place; (2) the commercial acid decomposition of certain silicate ores; (3) the removal of sulfur compounds from combustible gases; (4) temperature effects in ion-exchange type boiler water conditioners; (5) the corrosion of metallic titanium and metallic zirconium; (6) the kinetics of the production of carbon black by the thermal decomposition of methane; (7) the effect of change of state from liquid to solid upon the sensitivity of nitroglycerine; (8) the low temperature carbonization of coal. The foregoing projects were maintained in the Department of Chemical Engineering, which also gave service to Maryland industry on certain questions involving ceramic discolorations, explosion hazards in buildings, and the cause of a disastrous street main explosion in Silver Spring. Dr. Huff, Chairman of that Department, served as consultant to the Fuels and Explosives Division of the Bureau of Mines, was consultant to the Department of Commerce to aid the investigation and development of inventions by small business, and has been requested to serve as consultant to the Technical Command, Army Chemical Corps. The Engineer Board has provided in a research contract $15,000 to initiate, under Dr. Huff's direction, a study of electrical blasting.

Research and consulting service has been given by other departments of the Engineering Experiment Station. Among these may be mentioned a theoretical study of the thermodynamic conditions in gas turbines due to blade cooling by the use of air, carried on by Professor Shreeve and associates of the Mechanical Engineering Department, under research grants from the Navy. Note-worthy research was done in the Department of Electrical Engineering in the fields of multiple tuned circuits and diode operation. A contract has been entered into with the Navy for research work in the field of "magnetic amplifiers" to replace vacuum tube amplifiers in automatic pilots. The foregoing researches have been handicapped by lack of space. Such work should go forward more readily in the new laboratories to be provided for Electrical Engineering. The Wind Tunnel under the new Aeronautical Engineering Department is planned for and will make possible important test work and research for the aviation industry. The National Sand and Gravel Association has maintained its liaison with the Department of Civil Engineering. That Department, in cooperation with the staff in Physical Chemistry, is studying experimentally questions of soil stability under a grant from the Engineer Board, U. S. Army. The investigation consists of two distinct but closely co-ordinated programs, one laboratory and the other a full scale experimental installation

on the campus. The behavior of the original soil during compaction and later loading is noted, then the effect of saturation by chemical bases of various valencies is noted.

Fire Service Extension Department

The period of this biennium has proved to be the most active year since the establishment of the Department, and has seen considerable improvement in the physical plant, most of which was at no cost to the University, but was donated by various manufacturers. Great progress in fire service education and general fire protection service to the citizens of Maryland was made in the last two years.

During the biennium, a total of 42 classes were conducted in 1946 with an enrollment of 750 firemen, and a total of 52 classes with an enrollment of 1,117 in 1947. The latter enrollment was the highest in the history of the Department.

The Fourteenth Annual Short Course was held with an enrollment of 225, with 157 registered in the four specialized training courses. The Short Course instruction staff was maintained at the usual high level of talent.

The Department conducted a Building Fire Control Training Program of one week for the U. S. Department of the Interior, National Park Service, which was attended by 50 employees of 25 Eastern Park Service Areas located east of the Mississippi and from Maine to Florida. This group consisted of Rangers, Custodians of National Monuments, Park Superintendents, Park Engineers, Wardens, and Foresters.

In October, 1947, a nine-man Committee, representing the International Association of Fire Chiefs, the National Fire Protection Association, and the Fire Department Instructors Conference, met here and took some 250 pictures for the compilation of a Ladder Training Manual that will be published for nation-wide use in the near future.

During the biennium, a Radio Fire Alarm System was added to the building equipment, and the installation of the Automatic Sprinkler System piping, including window sprinklers on the smoke room was completed. The laboratory also now contains complete Central Station Demonstration equipment of Automatic Fire Detection Systems, Sprinkler Supervisory Systems, Watchman Systems, Automatic Fire Alarm and three types of Automatic Sprinkler Valves.

The Department has done considerable research and experimenting with wetting agents, conducting full-scale fire tests as well as laboratory tests. This work received considerable national publicity.

During the biennium, Chief J. W. Just, Director, received the following new appointments: Sub-Committee Chairman on Training Manuals for the National Fire Protection Association; District Chairman for the National Fire Waste Council, U. S. Chamber of Commerce; a member of the Maryland Fire Safety Committee.

The Department demonstrated and lectured on Fire Protection Equipment to a number of civic and professional groups, such as the Maryland Medical and Chirugical Faculty, Kiwanis, Insurance Agents, Sororities,

and Boy Scouts. Also, at the request of the Mayor and Council of Hyattsville, Md., a survey was made of Fire Department needs in that community, and a report submitted to the Council.

Mining Extension Classes

These classes offered in cooperation with the College of Engineering, the State Bureau of Mines, the State Department of Education, and the County Boards of Education of Allegany and Garrett Counties, have continued in the western part of the State. The effect of this training through the years has greatly improved mining operations and mine safety. Practically all the supervising personnel have at one time or other taken these courses.

College of Home Economics

MARIE MOUNT, *Dean*

A study of the figures for home economics enrollment in colleges shows that within the past few years certain changes have occurred: The total number of students majoring in home economics has decreased while the number of those taking a minor in home economics and of those choosing home economics courses that aid in preparation for another profession or for homemaking have increased greatly. Many things has contributed to the decrease in majors. As in other fields until now the salaries for teaching home economics in the secondary schools, in colleges, or through the state extension service have been fair only. There have been fewer dietitians and food service directors in training due to difficult working conditions. Long hours, Saturday and Sunday work, lack of personnel and equipment have discouraged young women in preparing for such work. The election of certain courses as nutrition, textiles, family relations and child development prove valuable to the individual for personal living or as an aid to professional training—nursing, social work.

Although national figures show a decrease in the number of home economics majors, our College of Home Economics has increased both in the number of majors and in the number of students electing one or more courses. There are certain trends within the last few years that are interesting: The number of students transferring from Junior Colleges into the upper classes is on the increase; the enrollment in all courses pertaining to art in the home has increased; men are registered in the College of Home Economics, majoring in Institution Management and Food service, in Textiles, and in Art in Advertising. The first man to do so graduated from the College of Home Economics in Practical Art in 1946.

Home and Institution Management

Home Management. Management of the Home, the basic course preceding Experience in Management of the Home, had 110 registered this year—too many for good teaching. For next year the 100 to 125 enrolled will be divided into four sections. Seventy-five seniors were in the Home Management House this year, making it necessary to have three sections last summer. There will be 85 for the coming year, with two sections for this summer and six sections during the school year 1948-49. The House has reached its maximum capacity, and specifications for new home management units in a family life center have been prepared.

The space in the Home Economics Building originally planned for the home management laboratory has been vacated by textiles and is ready to be equipped. With a management laboratory, courses will be developed to include the following: equipment performance; housing—planning houses for livability, the use of materials, adequate storage space, and the selection of furnishings. An experimental course in household procedures will be planned for graduates.

In addition to the regular class work in home management, the instructor in charge has worked with veterans, with students about to marry, and with groups on family and household budgets. It is interesting that there are more men who ask for budget material than women. This instructor has been one of five management specialists to work with Drew niversity's Theological School in their study of the rural pastor's homestead. It included the space requirements for family living and community work, and the minimum essentials in equipment and furnishings for a rural parsonage.

Institution Management. Food service has not been a popular field for employment during the past few years. Sutdents find they can earn a good living in other fields of home economics and avoid the sciences required for food service. The field of applied art in business and industry throughout the country is newer and offers many attractive positions. This picture is changing, however. There was a much larger group of the 1947 freshmen interested in some phase of food service.

We hope that quantity foods can have its laboratory taught at the dining hall next year. For several years, we have sent students to the Prince Georges Hospital for this work. We would like to have the dining room at the Rossborough as a practice place in food service. The National Executive Housekeepers Association has asked us to put in additional work in institution management to prepare professional housekeepers on the same basis as we prepare dietitians. There is a similar need for dormitory managers. Training for work in group housing has been neglected by all institutions in favor of food service. There are many possibilities in this field.

Textiles and Clothing

The enrollment has increased fast in this department. Men from other colleges are electing textiles and asking for a course in clothing for men.

According to studies made by pattern companies and reports from yard goods departments in stores more clothing is being made at home than has been for years. This accounts for the increased number of students electing clothing construction courses.

Two department stores in Washington want night courses given to their clerks in textiles. They say the consumer wants an informed clerk. Our graduates have given such courses at one of the Baltimore stores.

The Textiles and Clothing Department gave a six-week course at night to veterans' wives. These women have requested more for the coming year. There is a demand for knowledge concerning new fabrics by women's groups.

We have added new equipment in the textile laboratory. Maryland has been selected by the Bureau of Human Nutrition and Home Economics, U. S. D. A., as one of the four institutions for a cooperative project in the study of cotton fabrics.

This department's first candidate for a master's degree finishes this summer. Four others will qualify in 1949.

The 1948 graduates in textiles and clothing have found positions with the Bureau of Human Nutrition and Home Economics, the Milton Harris Textile Research Laboratory in Washington, Hutzlers, Woodward and Lothrop, Gimbels in Philadelphia, and the Bureau of Standards.

Foods and Nutrition

The acting head of this department and one instructor have resigned to be married.

On of the instructors in nutrition is preparing a nutrition handbook. Another instructor, for her master's thesis in foods and nutrition, worked with Poultry in a study of flavor and aroma changes in iced poultry.

In addition to regular class work, this department has performed the following services: A 16-week course in nutrition was given to the School of Cooks and Bakers at Fort Meade. The latter requested more work for 1948-49. Demonstrations in the freezing of food and its storage were given to a group of nearby home economics teachers. The food staff gave a six-week course in nutrition and food preparation to the veterans' wives.

Part of the equipment for an experimental foods laboratory on the fourth floor was purchased this year. This laboratory will be used among other things for study in the palatability of agricultural products.

Practical Art

Over a period of years there has been a steadily growing appreciation of art in daily living. This is being expressed in all things concerned with the home: home architecture that is beautiful and highly functional; colorful and artistic though durable furnishings; color and good line in clothes; efficient and beautiful kitchens; interesting texture in woods and fabrics; art in food and its service expressed in colored photography; hobbies that include such crafts as weaving, metalry, ceramics.

Wherever a division of home economics has provided facilities for education in the application of art principles the enrollment has been high, as ours is. We have been living through a scientific era in the home: scientific food preparation and nutrition; science of laundering and cleaning; scientific and rigid baby schedules. Now we have entered an era of more art in family living.

The Department of Practical Art offers courses in fulfillment of the following curricula:

Art Education (organized in the College of Education)

Interior Design
Costume Design
Art in Advertising
Ceramics

Crafts curricula
Metalry
Weaving

General

A Workshop in Family Life Education was held for a selected group of 25 home economics teachers of Maryland and Washington in the 1947 Summer School. Dr. Muriel Brown, of the Office of Education, acted as consultant in family life. The findings and procedures followed were published by the College of Home Economics.

The newly organized Alumni Council of the College of Home Economics has met here a number of times. In May, the Home Economics faculty entertained the members of the council and the home economics graduating class.

The dean of the College has served on the board of the American Home Economics Association as Treasurer for two years. The Association has 19000 members and headquarters with a staff of 25 in Washington.

The Borden Company Foundation gave the College of Home Economics $1,500 this year for five $300 scholarships. One scholarship is awarded yearly to the student in home economics who has the highest average at the beginning of her senior year. This makes a total of $3,000 given to the College of Home Economics by the Borden Company.

The National Executive Housekeepers Association has given $500 to the College of Home Economics for scholarships in that field.

The District of Columbia Home Economics Association has again made a donation to our Home Economics Scholarship Loan Fund.

Enrollment for 1947-48: College of Home Economics—400.

Home Economics Building



College of Military Science, Physical Education and Recreation

COLONEL H. C. GRISWOLD, U. S. A., (Ret'd.), *Acting Dean*

THE period covered by this report has been characterized by an impressive increase in the enrollment in all departments of the College of Military Science, Physical Education and Recreation. The rapidly growing appreciation of the importance to our national life of trained leaders in the fields of Military Science and Physical Education and of the increasing opportunities in these fields has attracted large numbers of young men and women. This increase in enrollment has outrun the increase in the teaching staff and physical facilities. The curricula in these fields has been changed and improved so that the graduates now can render better service. A large increase in the physical facilities in the way of lecture halls, classrooms, gymnasium floor space, dressing rooms, shower rooms and lockers is urgently needed to adequately care for this largely increased enrollment.

Military Science Majors—At the 1948 Commencement, the second group to graduate from this course received diplomas. The first graduating group numbered two, the recent group eight, and there should be a steady increase in numbers from this point on. Larger numbers of young men are becoming interested in the military profession as a career, due to increased opportunities open to college graduates to obtain regular commissions in the Armed Services. This course has evoked very favorable comment from all high ranking officers who have had it brought to their attention. A large percentage of its graduates so far are commissioned officers of the Air Force. A large number of regular officers of the Armed Services have been recently enrolled in work toward a Bachelor's Degree in Military Science. These officers are stationed in the Pentagon, Fort Meade, Baltimore, Aberdeen and other nearby military installations. For the most part, they are recently integrated officers of the regular establishment whose college work was interrupted by service in World War II. The necessity of improving their educational background has been called to their attention and as this course is in their major field of work it offers them a fine opportunity to complete requirements for a college degree. It is felt that this department is rendering a much needed service to our national defense forces in this project.

The ROTC Basic and Advanced Courses—The enrollment in the basic ROTC course during the past year was approximately thirteen hundred, and in the Advanced Course ninety three, distributed as follows: Air Force 35, Infantry 33, Signal Corps 15, and Transportation Corps, a unit which was just established at the beginning of the past year, 10. For the first time since 1942, a class of Advanced Course students completed their work and were commissioned here. Thirty five brand new 2nd Lieutenants were added to the Reserve component of the nation as follows: Infantry 18, Air Force 16, Signal Corps 1. An additional enrollment in the Advanced ROTC Courses starting next fall of approximately one hundred and seventy has already been accepted as a result of screening tests con-

ducted during the past two months. Information received from the Office of the Director of Admissions indicates that enrollment in the Basic ROTC Course next semester will closely approach 2,000. To successfully instruct this large a group will require a larger staff and the Department of the Army has been asked to assign seven additional officers and ten additional enlisted men to ROTC duty at this University. Military Day was also re-established for the first time since 1942.

The Required Physical Activity Program—This program which contributes largely to the all around physical development and well being of the student, was improved by adding a number of optional skills and sports courses to those who attain a satisfactory physical development level. Physical development tests are given to all students at the beginning and end of their first semester's work and thereafter at the end of each semester's work. These scores are recorded on cards in graphical form so that each student can see for himself the increasing improvement in his physical development. This adds to his incentive to reach the physical development standard which will permit him to move into the "skills and sports" part of the program. In its present form, this program is very effective in promoting both physical development and sport and recreational skills.

The Intramural Department—During the past two years there has been a large increase in the interest and effectiveness of this program, due in large measure to the efforts and enthusiasm of Assistant Professor James H. Kehoe. This program is used and liked by a larger group of students than probably any other program in the University. It offers the student wholesome recreational activity and a chance to satisfy the competitive urge to try skills and strength against his fellow man. This past year for the first time an Intramural Handbook was published, fulfilling a long felt want and putting the program on a substantial basis. As shown on the attached chart, over 4,200 students participated in over one thousand games in eighteen sports. More equipment and space will be needed for the coming year to care for the increased enrollment.

Physical Education Major Program—

Enrollment—The rapid growth in the number of students majoring in Physical Education and Recreation has been remarkable. There are now approximately 500 students working toward the B.S. degree in Education including 29 who are continuing a fifth year for the M.A. degree in Physical Education. A comparison with some better known Universities shows that Maryland has quickly surpassed a number of Universities which have been offeering a major course in Physical Education for years.

Improved Curricula—A broadened course has been established. Fifteen changes in the subjects taught were made to conform to eligibility requirements stipulated by State Boards of Education. Our courses have been limited by such institutions as Boston University and the University of West Virginia.

Specific improvements include:

A. Adequate practice teaching by all candidates for a teaching degree.

B. Additional courses in Voice and Diction and Public Speaking, so much needed by Physical Education directors.
C. More practice in sports, games, and gymnasium activities in all four years of college.
D. More courses in recreation, camping, intramural officiating and administration.

Graduate Courses—The addition of twelve courses for candidates desiring a Master's Degree has been highly successful and already there have been requests that a Doctor's Degree be established. If the teaching staff later includes several qualified doctors, this could be undertaken. A sound foundation for these graduate courses has been laid by the secured assignment of a special room at the Library of Congress for consultation and research with graduate students.

Facilities—The Armory, Women's Field House and Old Gymnasium have been used to capacity during the indoor season. Next year the use of the Coliseum floor has been requested because there will be about 50 sections of required activities classes next September instead of forty as last semester. The enlarged classes of majors in Physical Education also require *double classes.*

Gymkana—The organization of a gymnastic group open to all men and women students has been fully justified. Under the able and untiring tutelage of Assistant Professor Field these volunteers have met weekly and have given twenty-one performances in high schools, clubs, and in the Coliseum. The social benefits of this talented group have been great and the advertising value of their performances has frequently been noted. At the Eastern Convention of the American Association for Health and Physical Education and Recreation held in the Lord Baltimore Hotel, the Gymkana performance was the hit of the week. The special student luncheon session at the Convention for 100 delegates majoring in Physical Education was ably conducted by E. A. Harmon, a student major at Maryland. The participation of our students in the discussion of "what the various universities have to offer" promoted good public relations and was given favorable publicity. The attendance of over 300 of our Physical Education majors at the Convention far exceeded the combined attendance of eight other schools of Physical Education. The next largest group of 80 represented Boston University.

The Handicapped—Over 400 of the college students are handicapped by disease, accident, or deformities which interfere in varying degrees with their normal physical activities. The Medical Director has given adaptive exercise assignments and health advice to each student. In a few cases complete exemption from Physical Activities in organized classes has been prescribed.

College of Special and Continuation Studies

GEORGE J. KABAT, *Director*

THE College of Special and Continuation Studies, which is composed of the Division of Off-Campus Studies and the Division of General Studies, has, in the two years since its organization in 1946, conducted twenty-seven off-campus centers enrolling a total of 4,391 students and provided counseling facilities and guidance for 320 special students at College Park.

The two-fold functions of the College of Special and Continuation Studies were designed to meet the demands of employed persons in Maryland and surrounding areas for evening study for university credit; the Division of General Studies was established in 1947 with the purpose of furthering the ideals of democratic education by providing special assistance to high school graduates whose previous academic records did not meet the strict requirements of the degree-granting colleges but who showed the ability of potential university material.

Division of Off-Campus Studies

The off-campus centers maintained under the program of the College are shown on the accompanying table. Over two hundred and fifty courses, covering almost the entire range of University offerings, have been given. The services of approximately two hundred and thirty faculty members were utilized. In the largest center, Baltimore, an administrative office has been established, and the wide range of courses offered permit students in attendance at this center to obtain credits towards Bachelors and Masters degrees. It is expected that the program will expand still further as demand requires and facilities permit.

Courses offered at the Pentagon, Fort George Meade, and Bolling Field are largely in undergraduate arts and sciences, while offerings in the Naval establishments, including the U. S. Naval Academy, are generally in the fields of advanced chemistry and physics, chemical and mechanical engineering, and higher mathematics.

Offerings in the various communities of the State—Aberdeen, Cambridge, Cumberland, Hagerstown, LaPlata, Salisbury, and Westminster—have varied with the needs of the persons in the community, and have largely been in the fields of education, sociology, and government and politics.

The programs at the Calvert Distillery, the Glenn L. Martin Company, and the Rustless Iron and Steel Corporation have included both regularly established courses and in-service training institutes covering problems of personnel management and labor relations.

It is estimated that forty or more degrees will be awarded in June, 1949, by various colleges of the University to students who have completed their degree requirements under the program of the College of Special and Continuation Studies.

Division of General Studies

Since 1947, 320 students have been enrolled in this phase of the College of Special and Continuation Studies. According to the ruling of the Administrative Board, these students would remain in this program for one year to demonstrate their fitness for transfer to a degree-granting college; in addition, they would be provided with special study supervision and vocational and educational guidance. Effective study techniques are taught and individual assistance in English, science, mathematics, and social sciences is given in one hour weekly conferences. Students are required to attend at least one of these conferences weekly and may attend more of they desire extra assistance.

On September 19, 1947, 142 students were enrolled in this program. During the Fall semester, there were fifteen voluntary withdrawals from the University, leaving 127 students. Of this number, twenty-two did not meet the scholastic requirements their first semester at the University. Of the twenty-two, eleven applied for reinstatement, and six were reinstated. Eleven did not apply for reinstatement. Hence, at the beginning of the Spring semester, 106 students remained of the original group. At the end of the Spring semester, thirty-four of these students had transferred to degree-granting colleges, four had withdrawn, and sixteen were dropped for scholastic reasons. Of the fifty-two remaining students, forty-one have returned to the University for a second year.

In February, 1948, forty-six additional students enrolled in this program. Of this group, two students have already transferred into degree-granting colleges due to the fact that they had had previous college work, four students dropped, and one withdrew. Of the thirty-nine remaining students, thirty had returned to complete the one year's work to make them eligible for transfer.

In September, 1948, 137 new students were enrolled. At this point it is impossible to give any additional figures for this group.

Summary Statement of Activities

The College of Special and Continuation Studies, in making possible university-level work to some 4,500 students who otherwise would not have enjoyed the opportunity, has enabled the University of Maryland to provide further services to the State and the surrounding areas. The College of Special and Continuation Studies has in this respect acted as a public relations agent of the University.

The presentation of a well-rounded program which meets the needs of the various communities and establishments utilizing its services is of major importance. However, emphasis on the maintenance of university academic standards has been the first consideration of the College of Special and Continuation Studies. Therefore, no course is given for degree credit without the approval of the Head of the Department and the Dean of the College concerned, both as to the instructor and the course.

The problems encountered in setting up and administering the program have actually been fewer than might have been expected in a compara-

tively untried program and a new organization. The main difficulties have been lack of library and laboratory facilities in some communities and establishments, providing of counseling for off-campus students, minor administrative matters which have come up because of the distances involved in handling affairs in the various centers, and the need for additional competent clerical personnel. Possibly the greatest need is for sufficient centrally located classroom space for the Baltimore center. In view of the fact that, with the exception of the last two cited, such difficulties are ordinarily found in any off-campus work due to the nature of the program, it is felt that the organization of the College of Special and Continuation Studies is well suited to the purpose for which it was organized and is capable of expanding the programs under its direction.

Localities

Localities where courses were given and students enrolled.

	1946-47*	1947-48
Aberdeen	40	136
Annapolis		30
Baltimore	390	1,099
Calvert Distillery	83	66
Cambridge		25
Cumberland		38
Fort Meade		122
Glenn L. Martin	296	28
Hagerstown	6	27
LaPlata		21
Maryland Training School	11	
Rustless Iron and Steel Corporation	20	
Salisbury		2
Washington, D. C.		
Army Map Service		51
Bolling Field		45
Central High School		48
Naval Establishments		694
Pentagon		215
Miscellaneous—Institute for Child Study		322
Westminster	9	
Total	855	2,969

*Figures for 1946-47 obtained from Baltimore Registrar.

Graduate School

C. O. APPLEMAN, *Dean*

GRADUATE work during the biennium progressed along the lines already firmly established. No radical changes in policy or procedures were contemplated. Graduate work was extended to a few new areas. Graduate programs leading to the master's degree were offered for the first time in anatomy, histology and embryology in the School of Dentistry. The Department of Speech expanded its offerings to include graduate programs for the master's degree. The Department maintains a reciprocal agreement with Walter Reed General Hospital whereby clinical practice may be attained at the Army Audiology and Speech Correction Center at Forest Glen, Maryland.

The University sponsored graduate work for the personnel of the naval and military establishments in the Washington area was expanded and the number of students enrolled showed a marked increase for each year of the biennium.

The degree of Master of Foreign Study was awarded for the first time. Foreign study centers under the supervision of University of Maryland professors are now established in Paris and Zurich. The University has been a pioneer in offering graduate work in foreign centers. This program has attracted wide attention as attested by the increase in the number of applicants from all parts of the United States.

By special effort on the part of several departments the Graduate School has been able to accept an increasing number of qualified foreign students. Most of the foreign students accepted were chosen by their respective governments and they have proven to be superior graduate students. During the biennium one or more students from the following countries matriculated in the Graduate School: Argentina, Canada, China, Egypt, France, Greece, Cuba, Hawaii, Holland, India, Iran, Peru, Mexico, Phillipines, Puerto Rico, Switzerland and Turkey.

Enrollment

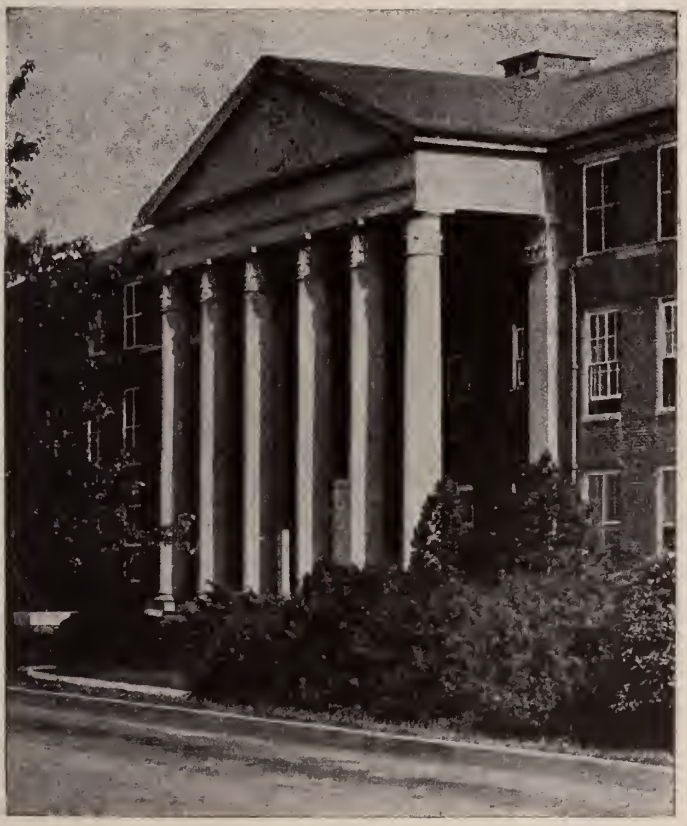
The second biennium of the post-war years showed a marked increase over the previous biennium in the number of applicants for graduate work. Because of the crowded facilities with the heavy post-war enrollment of undergraduate students, many departments were obliged to establish a definite quota for graduate students. This fact, together with the highly selective nature of admissions based on scholarship qualifications, resulted in an unusually high number of rejections, especially during the last year of the biennium. In spite of these determining factors on the number of admissions, the actual enrollment of graduate students for the biennium more than doubled that of the previous biennium. The following table shows the enrollment for each semester of the biennium and for the summer schools. This enrollment includes the enrollment of graduate students in the Baltimore schools. The University of Maryland being located in a metropolitan area, the total enrollment in the Graduate School contains an unusually large percentage of part-time students in special late afternoon and evening courses.

Enrollment

	1946-1947	1947-1948
Regular academic year	1,414	1,988
Short summer session	(1946) 285	(1947) 506

Degrees Conferred

Doctor of Philosophy	23	25
Master of Arts	22	37
Master of Science	26	63
Master of Education	39	87
Master of Business Administration	6	5
Master of Foreign Study	0	1
Master of Arts in American Civilization	2	0
Total	118	218



Entrance College of Education

School of Dentistry

J. BEN ROBINSON, *Dean*

THE academic years ending June 30, 1947 and June 30, 1948 were critical years in the post-war readjustment period. Because of the abruptness with which the National Selective Service, V-12 and ASTP programs were terminated at the end of active hostilities of World War II, one very small class was enrolled, in 1945, which will graduate in 1949. Other classes were of sizes approximating the enrollments of the pre-war era. These differences in total enrollments in classes caused considerable trouble in the scheduling of teachers and the assignment of teaching loads. However, a reasonably satisfactory schedule was arranged which will continue in operation until the end of the 1948-49 session, when the last of the classes with small enrollments will be graduated and the Dental School, for the first time in eight years, will return to normal enrollments.

It has not been possible during recent years for the Dental School to secure an adequate number of instructors to man fully all its departments. The opportunities for competent dentists to advance themselves in private practice have been much greater than existed for them as teachers in the Dental School. This unfavorable competitive situation has made it very difficult, and in some instances impossible for the Dental School to secure necessary teachers for certain of its departments. In some departments skeleton staffs have had to carry almost impossible loads because of the lack of teaching personnel, even where adequate appropriations had been included in the budget to provide for a full staff. This situation was further complicated by the fact that appropriations had not been approved for employing necessary technicians as aids in laboratory instruction. In a number of the basic science courses, members of the teaching staff were required to assume the duties of technicians. These deficiencies in teaching personnel naturally reflected on the effectiveness of teaching in the several science laboratories.

The 1947-48 budget provided funds for some adjustments in salaries and in rank among teachers in several departments where rank and salary were entirely too low. Changes were made that advanced a number of teachers from the one level to the next succeeding rank, and raised the heads of all departments to the rank of full professor. This additional financial support provided in the current biennium budget has made it possible for a desirable adjustment of inequalities among personnel in several departments, which has contributed materially to the quality of instruction and has served to assuage certain justifiable feelings that existed because of comparative low rank and low pay of some teachers. As a consequence of this improvement, the morale of the teaching staff in the Dental School has been greatly improved.

During the biennium 1947-48 careful study was made by several special committees of the content and arrangement of courses in the dental curriculum. These studies have resulted in several improvements; among them the complete reorganization of the Department of Oral Diagnosis, the improvement of its facilities and personnel, and its elevation to equal rank with other major departments of instruction. A highly competent, full-time

professor of oral diagnosis was secured, a secretary was installed, a system of charting and recording was planned, and a policy of correlation of oral and physical diagnosis with other departments in the Dental School was agreed upon. As the work of this department has grown it has become increasingly evident that there is need for its further expansion. As a result of thoughtful and vigorous administration constant advances are being made in this department which will greatly improve the dental approach to both oral and general health care.

The Department of Visual Education has been further developed during this biennium. Visual aids lend themselves splendidly for use in instruction in the several departments of dental teaching. Such aids are most beneficial if they utilize the materials discovered in clinical practice. The Department of Visual Aids is equipped to utilize the cases that present for treatment in the clinic, and as a consequence of this situation most visual aids processed become records of clinical conditions that have been discovered by teachers and students. The Department is equipped to do all types of work in the field of Visual Aids—black-and-white and kodachrome slides, micro-photographs, moving pictures in color and all types of colored photography, translites, etc. Not only has this arrangement been eminently satisfactory for teaching purposes but it has attracted national attention among medical and dental schools for its quality and effectiveness. It is to be noted that a book on dental teaching, *Teaching in Colleges and Universities,* edited by Dr. L. E. Blauch of the United States Office of Education, to which several teachers in the dental schools of the United States contributed chapters, included a chapter on *The Values of Visual Aids in Dental Teaching* contributed by the Dean of the Dental School, University of Maryland.

During the scholastic year of 1947-48 a number of refresher and postgraduate courses were offered to Maryland dentists. No graduate work leading to advanced degrees was included. The demand for opportunities in continuation studies in the field of dentistry is becoming more and more insistent. Because of limited physical and personnel facilities, it is necessary for the Dental School to conduct most of its postgraduate courses during the evening hours. The School is not prepared under existing conditions to respond favorably to requests, of which it has many, for the admission to these courses of non-resident alumni. Actually, the Dental School at the moment does not have adequate space to carry on the instruction of undergraduate students and at the same time to carry on graduate instruction and research of any significant proportions. The great advances that have been made in dental teaching during the past twenty years, since the present dental building was put into service, has brought about a severely congested situation in the use of current facilities. If the Dental School, University of Maryland, is to meet its full responsibilities to the members of the dental profession in the State, and through them to the people of the State, extensive additional physical facilities must be provided to accommodate an enlarged instructional research program.

Very definite limits are placed on some members of the teaching staff in their research and teaching efforts because of the lack of adequate physical facilities. Many full-time teachers in the Dental School have no

private offices, do not have access to offices for private work, do not have even a desk at which they can work, and actually do not have a private locker for their own personal use. While some of these situations can be endured, the teachers' efficiency in the field of research would be greatly increased under more stimulating conditions. Notwithstanding these handicaps a reasonable amount of research work has been done by certain teachers in the Dental School during the year, reports on some of which were published. Activities in research have been carried on in the departments of pathology, bacteriology, physiology, pharmacology and gross anatomy; also, much progress has been made by the division of dental history in its work on a history of dentistry in the State of Maryland. In view of the possibility of a grant being made for dental research by the Congress and that such funds will be distributed among those dental schools in the United States whose physical facilities and teaching personnel are satisfactory, it is very necessary for the Dental School, University of Maryland, to secure more adequate physical facilities if it hopes to share in these grants.

The following table shows the enrollment in the Dental School, 1947-48, as compared with the numbers enrolled in 1946-47, and with the numbers enrolled for 1948-49:

Total Enrollments for Three Academic Years

	1946-47	1947-48	1948-49
Freshman	106	110	111
Sophomore	19	90	95
Junior	72	22	92
Senior	77	72	19
	274	294	317

The contributions of the teachers in the Dental School to professional activities during the years 1947-48 were outstanding. The heads of nearly all departments in the Dental School and many associates were called upon by state dental societies, by national dental organizations, and by special scientific and professional groups to give lectures and/or demonstrations in their respective specialties. Members of the teaching staff appeared on dental programs in all the seaboard states from Florida to Maine and west to West Virginia, Ohio and Illinois. The requests for the services of the members of the teaching staff at the Dental School by organized dentistry testify to their worth, and warrant the conclusion that we must continue to make our teachers available to the profession as their services may be demanded.

School of Law

ROGER HOWELL, *Dean*

Student Registration

ENROLLMENT in the Law School at the beginning of the 1948-49 fall term was 469, of whom 280 were registered in the Day division and 189 in the Evening division. In comparison, the registration at the beginning of the 1947-48 fall term was 399 and at the beginning of the 1946-47 fall term was 310, while the enrollment in the last normal pre-war fall term was 211. The enrollment for the current year is the highest in the history of the School since the present admission requirements were instituted in 1928. It is more than double the normal enrollment in the pre-war period.

There are 92 colleges and universities represented in the pre-legal training of the student body for the current term, with the largest representation from the University of Maryland, followed by Loyola College and Johns Hopkins University, in that order.

As pointed out in the last biennial report, the present abnormal enrollment raises difficult problems, both as to proper student instruction and as to policy. The present student body is more than twice that which present physical facilities were designed to accommodate. The present classes are far too large to enable the individual student attention and supervision which characterized our pre-war instruction and which is regarded as particularly important in the proper training of our students. Sectioning is not possible without expansion of both the faculty and physical facilities. From the standpoint of policy, we are in danger of training more students for entry into the profession than the profession in the State will absorb, a result bad for the students, for the profession and for society, since overcrowding of the bar tends to bring about a lowering of ethical and professional standards. Also from the standpoint of policy, we have been forced by the abnormal number of applications, to refuse applications from non-residents of Maryland for each of the past two years, except where the applicant was already registered in the University; this we regard as undesirable and as leading to provincialism in our student body.

It is hoped that enrollment has reached its peak and that a falling off may be realized hereafter, sufficient to counteract the matters mentioned above. If not, then either an expansion of both the physical plant and the faculty, or a more stringent admission policy, or both, will be required.

Curriculum

The process of reconversion from the stripped-down curriculum of the war period to one in line with the offerings of recognized law schools elsewhere was completed during the past biennium. All courses dropped from the curriculum during the war period have been restored and some additional ones added, particularly courses in Labor Law and Federal Jurisdiction and Procedure. Further expansion of the curriculum, particlarly

in the field of graduate legal study, would be possible and probably desirable, but is not feasible without extensively enlarging our present faculty, library, and physical facilities.

Faculty

The faculty at present consists of eight full-time and fourteen part-time instructors. The full-time faculty is smaller than it should be, particularly with the present enrollment. Schools of similar or lower standing and enrollment, and with no separate Evening divisions, show full-time faculties of ten to twelve men; without expansion of present physical facilities to provide more office space, however, no great increase can be made in our present staff.

Present heavy teaching schedules have left less opportunity than perhaps is desirable for faculty research or participation in professional activities. However, there has been a considerable amount of such activity, and several of the faculty have published contributions in various legal periodicals. Professors Strahorn and Jones have continued to carry on Maryland annotation work for the American Law Institute Restatements of Judgments and Property, and Professor Strahorn has continued also as a Reporter for a portion of the Uniform Commercial Code now in course of preparation by the Commissioners on Uniform State Laws and the American Law Institute. Professor Invernizzi has continued as Reporter for the Standing Committee on Rules of Practice and Procedure of the Court of Appeals, with Mr. Kaiser of the part-time faculty as Assistant Reporter; during the past year, extensive rules revisions have been promulgated by the Court of Appeals, and Professor Invernizzi has appeared before local bar associations in many of the counties to explain their effect upon existing practice. Dean Howell was appointed by Governor Lane as one of the Commissioners on Uniform State Laws from Maryland and is chairman of a committee assigned to prepare a Model Code of Criminal Procedure; he also represented the Association of American Law Schools on the American Council on Education. Faculty members, both full and part-time, participated actively in committee work of the Maryland State, Baltimore City and American Bar Associations, and of the Association of American Law Schools.

Law Review

The Maryland Law Review, which could appear sporadically only during the war period, has resumed regular publication on a quarterly basis.

Alumni Association

The Alumni Association, which had been inactive for many years, has been most successfully reactivated. It is hoped that this will bring about a much greater integration of the Law School Alumni into the overall University picture than has hitherto been the case.

Post Admission Legal Education

At the present time, a very general demand for continuing or post-admission legal education has developed throughout the country. The Ameri-

can Bar Association and the American Law Institute are now working on the details for a national program through an impressive and able committee. It is believed that any such program, to be successful, must be largely administered and supervised by the law schools of the country; and that in Maryland we must consequently be prepared to take the lead in offering any such program to Maryland lawyers. We have therefore given this a good deal of study during the past year; and Professor Arnold, as chairman of the Maryland State Bar Association Committee on Legal Education and as a member of its Special Committee on Post Admission Education, has been in constant touch with those engaged in working out the national program. Plans are still in the formative stage, but undoubtedly there will be important developments in this respect during the next few years throughout the country.

School of Medicine

H. BOYD WYLIE, *Dean*

AT the end of the war the Medical School returned to its normal schedule of admitting a freshman class once a year. Also 137 of our staff members returned to the school from active duty with the armed forces. Both these happenings had a salutary effect on teaching and research.

During 1946-1947 there were enrolled 336 students representing 31 states and Puerto Rico, and during 1947-1948 the enrollment was 332 students from 31 states and Puerto Rico.

Because the number of resident student applicants was not sufficient in quantity and preparation to fill the incoming freshman classes during this biennium, it was necessary to give consideration to good non-resident applicants. The Committee on Admissions has given careful study to the selection of state and out-of-state applicants. Its policy has been to select the candidates on the basis of their promise of success as physicians and fitting representatives of our school. Ninety freshman were admitted in 1946, but because of the apparent demand for doctors this number was increased to 96 in 1947-1948.

The accomplishment of our graduates remained good during this period. In 1946, 121 graduates took state board examinations. All passed but two, giving a passing record of 98.3%. In 1947, 109 graduates took and passed state board examinations 100%.

During 1946-1947 the Post Graduate Committee of the School gave intramural training to 35 physician students and a refresher course to 7 physicians.

In 1947-1948 the Post Graduate Committee inaugurated three series of Post Graduate Extension Lectures at rural centers, one at Prince George's General Hospital, Cheverly, Maryland, a second at the Washington County Hospital, Hagerstown, and a third at the University Hospital, Baltimore, for physicians of Carroll and Howard Counties. This series was enthusiastically supported and attended by 98 physicians from rural districts, representing one-seventh of the doctors in rural Maryland. In addition, 30 more intramural students were given post graduate courses at the School in Baltimore.

With the splendid increase in State support which became available on July 1, 1947, the School of Medicine was able to provide a better teaching program by the appointment of a number of half-time younger men to bolster the clinical teaching and to stimulate interest in research. In addition, full-time men were appointed in some major clinical departments and plans were afoot to secure full-time personnel for the heads of other clinical departments.

In June 1948, the first Medical Care Clinic of its type and service in this country was opened in our out-patient department under the supervision of the Dean's office. During its first year this clinic will give its services to 5,000 patients of Baltimore referred by the Welfare Department through the Baltimore City Health Department. Each patient is given a thorough

physical examination and is then assigned to a cooperating family physician. The latter takes care of these patients at their homes. He has the privilege to refer them at any time to the Medical Care Clinic for further study, where there are in attendance a group of medical examiners and consultants ready to be of service.

In 1946 the School of Medicine appointed a Planning Committee to provide a long-range schedule for the improvement of housing, teaching and research. These plans are gradually being put into effect with good results.



The School of Medicine

The School of Pharmacy

A. G. DuMEZ, *Dean* (Deceased)

Finances

THE School of Pharmacy ended the biennium of 1946-48 with a substantial balance, due mainly to the increased income from a larger student body, and to the fact that expenditures were held to a minimum during that period. However, there is great need for repairs and replacements, a substantial amount must now be spent for replacing wornout equipment and for purchasing new equipment not available during the war years.

Physical Facilities

As reported by the late Dean DuMez on September 10, 1948, additional space is needed to provide for undergraduate instruction within the next biennium, as it is believed that pharmaceutical instruction will soon be extended to six years, leading to the professional degree of Doctor of Pharmacy, in accordance with the findings of the Survey of Pharmaceutical Education, the fact-finding phase of which Survey has been completed and which will be published within a short time. It has been estimated that approximately 19,000 sq. ft. of additional space is needed. This additional space is essential to provide adequate instruction in the present curriculum, which curriculum will have to be lengthened and to which new courses will have to be added in the next biennium. Space is needed in which to properly develop courses in analytical chemistry, pharmacology, manufacturing pharmacy and research if the School of Pharmacy is to keep pace with new developments in the biological and chemical sciences. Additional equipment will also be needed.

Further, due to the lack of qualified teachers in pharmacy, and the great need for persons with graduate training in the drug industry, considerable more space than we now have is needed for graduate students. Graduate work in the School of Pharmacy was inaugurated in 1930, and with 34 graduate students now enrolled, it would seem that the graduate program should be strengthened rather than weakened.

Student Enrollment

Student enrollment has increased, as shown by the following table. In 1944-45 the enrollment was 97 students, in 1945-46 it was 118, in 1946-47 it was 214, and in 1947-48 it was 273, with a first semester enrollment for 1948-49 of 321 students, including 34 graduate students. Students who were drafted into the armed services have returned to all four of the undergraduate classes.

Classes	1946-47	1947-48
Freshman	85	73
Sophomore	48	90
Junior	23	47
Senior	16	23
Graduate Students	30	32
Special Students	12	8
	214	273

Publications

The members of the major faculty of the School have contributed many scientific articles, reports of research, etc., to the pharmaceutical and scientific journals, about twenty such articles having been published during the biennium.

Miss Georgianna S. Gittinger, who is interested in the translations of the history of medicine and pharmacy from the Spanish, went to Lima, Peru, in July 1948, and was installed as an Honorary Member of the Peruvian Society of the History of Medicine.

Other Activities

As usual, the members of the faculty, in addition to their teaching and administrative duties, have participated in activities having to do, in general, with the progress of pharmacy. Two members of the staff have served on committees in the preparation of the U. S. Pharmacopoeia, and another member has served on a committee having to do with the revision of the National Formulary. The above mentioned publications are the legal national standards for drugs and chemicals.

The late Dean of the School of Pharmacy was active in national organizations, serving as Secretary-Treasurer of the American Council on Pharmaceutical Education, as Vice-Chairman of the Pharmaceutical Survey, as Pharmacy Consultant to the Surgeon General of the United States, and as a member of the Committee on the Status of Pharmacist in Government Service.

The School has cooperated with the State Health Department and with the state pharmaceutical organizations. The Dean was a member of the Council on Medical Care of the State Department of Health. Several members of the faculty have served on committees of the Maryland Pharmaceutical Association, and two members of the faculty have been active in the Baltimore Branch of the American Pharmaceutical Association. The lecture rooms and facilities of the School have been used by the Maryland Board of Pharmacy in examinations for licensure, and by other state and city pharmaceutical organizations. The School has continued to supervise the operation of the drug room in the University Hospital and the pharmacy in the Free Dispensary. The work in the drug room at the hospital has expanded greatly, the physical facilities are inadequate, and more space is needed for the storage of chemicals and medicinal supplies. The hospital now has a full complement of pharmacists (three), recently brought about by the appointment of another pharmacist to that staff.

Needs of the School of Pharmacy

As stated in several recent reports, one of the great needs of the School of Pharmacy is additional space. Laboratory and classroom space is needed for giving the undergraduate instruction now included in the curriculum, and which will likely be expanded during the next biennium. It would also seem advisable to provide additional facilities for graduate work, as trained persons are greatly needed as teachers and in pharmaceutical manufacturing, research, etc.

Faculty Changes

During this biennium there has been a larger number of changes in the faculty than usual. Eight members of the faculty resigned at the end of the session of 1947-48, and in addition to the appointments made to fill these vacancies, four new members were appointed to the staff for 1948-49, making the total number of appointments twelve and the total number of changes twenty. The four additions to the teaching staff were necessary to provide the instruction required for the increased enrollment. Ther are still vacancies, which we have not been able to fill. The salary scale of the teacher is lower than that of the pharmacist in pharmaceutical laboratories, research, manufacturing, legal drug control work, administrative work, etc, and the school loses trained teachers through this differential.

Curriculum

There were no changes of major importance in the curriculum during the past biennium, but the organization of the instructional work was revised to provide for the larger number of students and to improve the methods employed where they were found to be inadequate. More attention is now given to the instruction of hospital pharmacists. As stated in the foregoing with regard to physical facilities, it is believed that pharmaceutical instruction will soon be extended to six years—that is, two years of pre-pharmacy work, followed by four years of work in pharmacy, and it will then be imperative to add new courses and lengthen others now in the curriculum.

Graduate Work

Approximately the same number of graduate students were enrolled in the School of Pharmacy for both years of the biennium—32 students. All of these students were majoring in courses offered only by the School of Pharmacy. Many applications were received, not only from residents of this country, but from foreign countries, and the number accommodated could easily have been doubled if we had had the facilities necessary for this work.

The demand in teaching, in the industries, and in research, for persons who have completed the doctorate degree is much greater than the supply. The industries feel so keenly the need for specially trained men and women in their respective fields, that they have made available to the colleges funds with which to aid these students financially.

Grants to graduate students have been received by our School of Pharmacy during the biennium as follows:

H. A. B. Dunning Research Fellowship.....	$1,000.00
American Foundation for Pharmaceutical Education....	8,622.00

The number of schools of pharmacy in the whole country having the physical facilities and the faculties qualified to give graduate instruction are few, and it would seem advisable to provide additional facilities for the graduate work which has progressed so favorably in our school of pharmacy up to the present time.

School of Nursing

FLORENCE M. GIPE, A.B., M.S., R.N., *Director*

GENERAL resume of the School of Nursing from July 1, 1946 to July 1, 1948:

Number of students enrolled July 1, 1946—201 and 21 affiliates.

Number of students enrolled July 1, 1948—133 and 8 affiliate.

Number of student nurses graduated from July 1, 1946 to July 1, 1948—151

Number of Faculty Members in School of Nursing

	1946	1948
Director	1	1
Associate Director	1	½
Assistant Director	0	½
Science Instructors	2	1
Nursing Arts Instructors	1	1½
Clinical Instructors—Medicine and Surgery	1	2
Pediatrics Instructors	0	1
Obstetrics Instructors	0	1
Public Health Instructor	0	1
Instructor of Social Science	0	1
Secretary	1	1
Librarian	0	1½
Supervisor of Records	0	1
Secretary to the Director	1	1
Guidance Counselor	0	½
	8	15½

Nursing Service-Hospital

Associate Director of Nursing Service	1	2
Assistant Director of Nursing Service	1	1
Supervisors	13	18
Head Nurses	14	18
General Duty Nurses	29	41
Nurses Aides	22	29
Volunteer workers in nursing	47	1
	127	110
Out-Patient Department		
Supervisors	1	2½
Head Nurses	1	2
General Staff Nurses	2½	2½
	4½	7

Total number of admissions in hospital July 1, 1945—
June 30, 1946— 9,834
1,845 newborn

Total number of admissions in hospital July 1, 1946—
June 30, 1947—10,618
2,486 newborn

Total number of admission in hospital July 1, 1945—
June 30, 1948—10,688
2,372 newborn

Physical Improvements in the School of Nursing

New Nurses Library fully equipped with one full time and one part time librarian giving the nurses service from 9 a.m. to 9 p.m. The Library is under the direction of the University of Maryland Associated Libraries. More than 1,500 new books and periodicals are in use. New ward libraries have been established in every division of the hospital.

One new electric washing machine and several ironing boards have been added to the student nurses laundry as well as four new electric irons.

One R. C. A. television set for the Nurses Home.

Three new typewriters for the Teaching Department.

Four new desks and chairs for instructors.

New curtains for the Nurses Home living room (giving by Woman's Auxiliary).

Four new electric toasters for the kitchen in the Nurses Home.

Three new electric fans for the Teaching Department. One for operating room nurses.

Seventy new sets of furniture for the Nurses Home to replace all of the iron double decker beds.

New linens and bedspreads for the Nurses Home.

Educational Activities in the School of Nursing

Through the Department of Publications at College Park a new bulletin of the School of Nursing was edited in 1948.

Between 1946-1948 more than 100 high schools in and out of the State were visted in order that students could be guided in selecting schools of nursing.

Two national conventions were attended, also two State conventions, and four sectional meetings.

The Director and Associate Director attended short survey courses at: University of Indiana, University of Pittsburg, University of Minnesota, and Vanderbilt University.

Five faculty members attended summer school at the University of Maryland, three for undergraduate degrees and two for graduate degrees. One member of the faculty was appointed to the Maryland State Board of Examiners of Nurses. One member of the faculty was given a years leave of absence to complete credits for a Master in Public Health degree.

One supervisor took post-graduate work in premature infant care.

One supervisor is now on leave of absence for post-graduate work in pediatric nursing. She will return to her position March 1, 1949.

A new method of pediatric nursing care was established in teaching the "Play Program".

Nursing Service Changes

The Associate Director is now in charge of bedside nursing. One supervisor takes care of auxiliary help. Between 1946-1948 310 nurses aides have been trained with a special program aside from that of the School of Nursing. These aides have received forty-five hours of formal class work, and eighty hours of bedside practice. Many of them got employment in community hospitals. The membership of these groups consisted largely of high school girls and girl scout recruits.

Advanced Nursing Education

Through the College of Education more than 250 graduate nurses are using the facilities of the University of Maryland to get graduate and undergraduate degrees. Many of these nurses are employed part time in community hospitals. Some out-of-State nurses are attending full time programs at College Park. During summer school of 1948 two visiting professors in Nursing Education taught nursing subjects on the Baltimore campus. While this work is directly under the supervision of Dean Harold Benjamin, the Director of the Nursing Department of the University of Maryland and Professor in the School of Education, assisted by a committee, advises and administers all nursing subjects.

Recommendations

1. Scholastically we have made a remarkable forward stride, but we, the faculty, are definitely handicapped in the lack of space and class rooms. Unlike many nursing schools we experience no difficulty in getting both quality and quantity in our nursing classes. Students today are seeking the teaching facilities of university schools, and the University of Maryland is in a very enviable position to supply other schools with administrators and teachers. However, our inadequate space in the Nurses Home limits our student body so that our increased patient service cannot receive the quality of nursing care that we desire to give. Therefore, this faculty in nursing recommends to the President that he make available as soon as possible more and better living quarters for the increased nursing school population, and increased class rooms and teaching equipment so that our nursing service load may be reduced to a forty hour work and study plan for our students whose present program is too heavy, and must be supplemented with additional help of graduate nurses, nurses aides, and orderlies.

2. That more scholarships be established for student nurses.

3. That living quarters be provided for foreign nurses who take observation and study in the University of Maryland School of Nursing and Hospital.

4. That faculty members of the School of Nursing be informed of all

opportunitiees for foreign study so that a democratic relationship may be established in the world health program of which the University of Maryland is a member. At present we have three foreign students in the University who have scholarships from the Institute of Inter-American Affairs, and we have requests for six more admissions.

5. That the School of Nursing be surveyed as soon as posible by a joint committee of the United States Public Health Nurses Association and the National League of Nursing Education so that a joint accreditation may be established in line with other universities comparable with the University of Maryland. Aside from the Nurses Home and shorter working hours for our students I feel that we are now in a position to ask for the first survey.

6. That more funds be advanced as soon as possible to the School of Education to increase the number of part time and establish full time professors in Nursing Education, especially Public Health, and that this department also be surveyed and accredited by the National League of Nursing Education.

7. That a full time instructor on a Masters degree level at least, be assigned to College Park to teach pre-nursing subjects in the College of Arts and Sciences so that these students are not lost to nursing, and that they be oriented to the nursing field in general. As the program now stands there is a lack of coordination.

8. That comparable salaries for nursing service in the hospital be established, in line with salaries paid in government hospitals, so that more competent area supervisors and head nurses may be secured to demonstrate good nursing care in action. Since these workers are representative of good construction engineers at work we must not lose sight of their importance wherein they are teaching the preservation of life and the principles of health to our students.

In closing this biennium year the faculty of the School of Nursing are truly grateful for the untiring interest of the President of the University of Maryland, his democratic spirit, his keen understanding, and his determined cooperation.

University Hospital

HAROLD A. SAYLES, *Acting Director*

THE University Hospital is the principal clinical training institution of the Medical School. It has a capactiy of 435 beds and 70 bassinets devoted to general medicine, surgery, obstetrics, pediatrics, gynecology, and the various medical and surgical specialties. In addition to furnishing the clinical facilities for the students of the University of Maryland School of Medicine, the hospital offers the services of a modern general hospital to the residents of the State of Maryland. It is mostly dependent upon fees received from the care of private and semi-private patients. A portion of its budget is contributed by the State Legislature in order to support the hospital for the care of under-privileged citizens from all parts of the State. This is one of the hospital's most important functions, next to providing clinical material for the instruction of the medical and nursing students.

Outpatient Department

The Outpatient Department which is housed in the old hospital building had 91,214 visits for the year ending June 30, 1947. For the year ending June 30, 1948, 110,904 patients were treated in this department. The Outpatient Department is composed of 28 clinics. Each of these clinics has as its head a member of the visiting staff of the hospital. The practical instruction of the medical students takes place within these various clinics. The Outpatient Department Committee composed of Dr. George H. Yeager, chairman; Miss Emma Winship, R.N., secretary; Dr. Beverley C. Compton, Dr. A. H. Finkelstein, Dr. Lewis P. Gundry, Dr. J. Huff Morrison, Dr. Howard B. Mays, Dr. Allen F. Voshell, and Mr. Harold A. Sayles, ex-officio, have materially strengthened the clinical teaching and the administration. Many improvements and adjustments made during the last two years have increased the efficiency of service to the patients. Some of the adjustments, namely, enlargement of the pharmacy, history room, dental clinic, X-ray, screening room, and social interviewers have contributed to a better service to the indigent of the State of Maryland.

Volunteers

Ever since the hospital was organized, the Woman's Auxiliary Board and the Red Cross during the war have contributed a splendid group of women who have given of their time in making bandages, caring for the sick, maintaining a patients' library and many other fine services. During the war effort this volunteer service increased to approximately 250 public-spirited women. The Red Cross training program for nurses' aides is being reactivated, which will contribute materially to the patients' care during this postwar period.

Neurosurgery

In 1946 neurosurgery was recognized as a department under general surgery. Our hospital was the recipient of a gift from the Hoffberger Brothers in order to carry on this work. New X-ray equipment and an electro-encephalograph were made available through this fund. This forward move has been very beneficial to the neurosurgical department.

Anesthesiology

On January 1, 1946, the department of anesthesiology was organized. On July 1, 1946, the staff was completed with the head of the department, one assistant, one resident, and two assistant residents. Dr. Alfred T. Nelson, acting head of this department, assumed his new duties on September 1, 1948, when Dr. Fred C. Dye returned to Army service. The functions of this department include not only the administration of anesthetics, but pre-operative check-ups of all patients and pre-operative medications as well as choosing the type of anesthetic suitable to the surgery to be performed. Post-operative patients are followed closely for any post-anesthetic complications. This department not only administers anesthetics, but supervises anesthetic problems in the departments of medicine, obstetrics, and gynecology. New courses for the teaching of medical students and student nurses have been instituted.

Accident Room

The accident room of the hospital rendered emergency care to 18,592 patients for the year which ended June 30, 1948; 17,915 patients were treated in the accident room in 1947. Because of our hospital's proximity to the large manufacturing and shipping district of the city, our emergency cases average about 55 a day.

Cancer Detection Center

The cancer detection center at University Hospital, sponsored by the American Cancer Society, was opened November 7, 1946. This was the first such center to open in the State of Maryland. Since then other such centers have been opened at Johns Hopkins Hospital, Salisbury, Elkton, Frederick, and Annapolis. The center is operated weekly by a team of four physicians, one nurse, a technician, a secretary, and a volunteer worker. The four physicians are especially trained in cancer work; two in general surgical cancer and the other two in gynecological (women's) cancer.

Outside Obstetrics

In addition to the hospital deliveries, the obstetrical department has maintained a large outpatient clinic. Since June 1, 1917, the hospital cared for 29,359 women in their homes. During the year ending June 30, 1948, approximately 700 mothers were delivered in their homes. 8,547 visits were made by doctors, nurses, and senior medical students with the home delivery service during the year 1948.

Clinical Laboratory

The department of clinical pathology in the hospital is recognized as one of the best laboratories in the State of Maryland. This past biennium 8,525 whole blood transfusions and 1,071 plasma transfusions were given. 78,960 biochemical tests were made, 87,480 serological examinations were performed. 33,687 bacteriological studies, and 113,953 hematological examinations were done. Our laboratory not only carried on studies in the hospital and dispensary, but also rendered assistance to other institutions in the city and in the counties of Maryland in regard to special diagnostic studies.

Typing Rh

In August of 1945, one of the first centralized Rh typing laboratories in the country was set up by this department. The Rh laboratory is sponsored by the obstetrical and gynecological section of the Baltimore City Medical Society. Since its inception this laboratory has performed tests on about 80,000 expectant mothers. The plan of operation and organization of this laboratory has been adopted as a standard by institutions in other parts of the country.

University Hospital has grown to such an extent that it is impossible to cover the broad scope of its services to the community and state. Expression of appreciation is in order in recognition of the splendid medical staff that has been so loyal, faithful, and helpful in meeting the increased demands of medicine and the care of the sick. The doctors of the visiting staff with privileges in this hospital number approximately 250.

The Executive Committee, composed of heads of all the departments and six elected members, has been untiring in faithfully serving our hospital. The present Executive Committee is composed of Dr. John E. Savage, chairman; Dr. Theodore E. Woodward, secretary-treasurer; Dr. T. Nelson Carey, Dr. C. Reid Edwards, Dr. Louis H. Douglass, Dr. J. Mason Hundley, Jr., Dr. F. Edwin Knowles, Dr. Walter L. Kilby, Dr. J. Edmund Bradley, Dr. Adfred T. Nelson, Dr. Milton S. Sacks, Dr. George H. Yeager, Dr. Ephraim T. Lisansky, Dr. A. H. Finkelstein, Dr. Harry C. Hull, Dr. Howard B. Mays, Dr. Samuel T. R. Revell, Jr., and Dr. Henry R. Ullrich. Dr. Maurice C. Pincoffs, Assistant to the President, Dr. H. Boyd Wylie, Dean, and Mr. Harold A. Sayles, Acting Director, are ex-officio members.

The following tables show the total number of patients admitted to this hospital, including newborn, and the total patient days for the last two years:

Year	Total Patients Admitted	Newborn	Total Patient Days	Newborn
1946-1947	13,140	2,486	167,051	19,797
1947-1948	13,060	2,372	159,191	17,896

The present demand for beds in University Hospital is beyond comprehension. Over 160 cases are waiting to be admitted now, and no beds are available. The paramount issues are the increased capacity in the nurses' home and a new psychopathic hospital for which plans have been drawn.

Medical Care

The Medical Care Program for the City of Baltimore was put into operation on September 1, 1948. This new program is in effect on the second floor of the Outpatient Department with its Director, Dr. Henry Holljes. This clinic shares with Johns Hopkins the medical care of the medically indigent of the City of Baltimore.

Division of Student Welfare

GEARY EPPLEY, *Director*

THE Division of Student Welfare was established in July 1946 to co-ordinate all student activities and student services other than academic. During the biennium 1946 to 1948 (the first post war biennium) the main work of the Division was to increase facilities and devise methods to care for the housing, feeding, and health of a student body that had tripled in size; and to re-activate student activities and organizations in order to re-institute a normal student life.

Dean of Men (Geary Eppley)

During the past biennum the work in the office of the Dean of Men consisted largely in the re-activation of the pre-war campus organizations and activities and establishing those new organizations necessary to care for the needs of the enlarged student body.

The Student Government organization which had been changed during the war so it could efficiently operate during the emergency was re-instituted in accordance with the established constitution. This required the training of a new group of student leaders.

Student Organizations all operated within their budget; but in the spring of 1948 it was found that they had a deficit of $53,672.44 due to the fact that the Veterans' Administration made a ruling that they would not pay the Student Activity Fee even though they had paid it in 1944 and 1945 and they insisted on a refund on the money paid in the previous two years. By taking stringent economical measures, this debt was reduced to $32,711.32.

The Association of Veterans was a very valuable organization on the University of Maryland campus and handled all matters relating specifically to Veterans. None of the national student veterans organizations were established on the campus as Maryland veterans took the attitude that they were part of the student body, that they would be active in all student organizations and that they only needed an organization to take care of problems that were peculiar to the veterans. Under this plan we did not experience the difficulties that many of the universities had with veteran organizations.

Fraternities are operating actively and are nearly double their pre-war size. Those fraternities that ceased operation during the war have been re-established and are functioning, and two national fraternities, Zeta Beta Tau and Delta Tau Delta were installed in the spring of 1948, making a total of 19 national fraternities on the campus. Sigma Pi started a colony in the spring, a local group under the guidance of Sigma Phi Epsilon was organized, and another local, Alpha Alpha has been organized with the purpose of petitioning Kappa Sigma.

Clubs, honoraries and professional fraternities have expanded to 92 such organizations with a total membership of 3,000 under-graduates and 300

graduate students. The programs presented by these organizations covered a wide range interest including music, nuclear physics, horsemanship, commerce, engineering, and current government and international problems. In one year, these organizations brought to the campus 76 outstanding speakers, many of whom were nationally and internationally known people. A number of these student organizations contributed to the University public relations by presenting 50 varied programs throughout the State.

The Student Publications have been very successful, showing a definite improvement in news, format and business. The greatest improvement probably was in the "Terrapin", which was delivered before the close of the school year for the first time in three years and was a beautiful book, much larger than the pervious year and produced at a cost of $4.10 per book compared to $4.68 the previous year. The Old Line's first post-war issue was in the spring of 1946 and each year the students publish a very attractive "M" Book for the freshmen. During this period Mr. William F. Hottel returned to the staff of the University as faculty advisor of student publications, which proved most beneficial.

The student attitude on the whole has been very favorable and cooperative and there has been a very good relation between the students, the faculty and the administration. From time to time the President of the University held special dinners for student groups and faculty advisors of student organizations, faculty committees met with student groups and discussed problems of mutual interest, and the assistance of campus leaders was sought in helping to solve student problems. This had a definite influence on improving student attitude, brought about a closer relation between students and faculty and helped to eliminate an antagonism the students had immediately following the war.

The problems presented by the individual students were quite different than those received under normal conditions. The question of vocational guidance and financial problems were practically nil as the veterans receive their vocational guidance tests from the Veterans' Bureau and the great majority of them had sufficient funds for their education. However, there were still many problems due to the re-adjustment after the war—social problems, married veterans problems and various others.

There were four categories of male students: veterans enrolling in college for the first time; veterans who were former students; young freshmen; and those who could not get into the military service. Each had different problems and the veterans who were former students contributed greatly toward bringing college life back to normal.

Housing

One of the most interesting activities of the post-war period was providing living accommodations for the great influx of men students. Under the Lanham Act, in the spring of 1946, the government started construction of temporary barracks for approximately 750 students but due to the scarcity of material and strikes all the buildings were not ready for occupancy at the opening of the school year. It was necessary to place beds

in the Armory and house 500 men under these conditions for about two months. It was not possible to have roads and sidewalks at the time the buildings were completed which added considerably to the confusion. The plumbing was second hand and a good bit of this had to be replaced as soon as it was put into use. At this period, labor was very scarce and it was practically impossible to get efficient crews to handle utilities and very few of them remained on the job over two months.

The Federal Public Housing Authority supplied what surplus furniture they had available, but this failed to meet the needs and it was necessary to explore other sources of surplus material in order to obtain the bare necessities for these dormitories. In order to further alleviate the housing shortage, the atties of several dormitories were finished to supply additional sleeping accommodations and a great many more students than the normal capacity were placed in the permanent and temporary dormitories.

Even though the dormitories were over-crowded and the plumbing and heating facilities were inadequate and there were no roads and sidewalks to the temporary dormitories, very little criticism was received from the students. It was fortunate that the large percentage of those in the dormitories were veterans, for they accepted the whole situation philosophically. They had a definite objective in mind and as a group did outstanding work in spite of all their housing difficulties.

Another factor that contributed to the successful operation of the dormitories was that it was possible to get men who had been majors and captains to serve as proctors. These men were under-graduates completing their collegiate work and the few difficulties encountered by them were minor compared to the many hardships they had experienced during the previous three years. The whole dormitory system was gradually improved.

New furnaces were purchased and the bulk of the victory plumbing has been replaced, also from time to time, additional furniture was secured, and roads, sidewalks and landscaping has been completed so that the area that was once known as "Mudville" is now "Verdant Green."

In September 1947 three new parmanent dormitories with a capacity for 320 residents were build and opened. They were furnished mainly with surplus beds and chests which were refinished at the University. The housing report for 1947-48 is as follows:

Men Housed Regular Session

Permanent Dormitories	1,130
Veterans Barracks	1,132

Men Housed Summer School

Permanent Dormitories	500
Veterans Barracks	70
Special Groups Housed	1,605

After the main physical difficulties of housing were mastered more attention has been given to the improvement of student life in the dormitories and the guidance and counseling of residents. Both the parmanent dormi-

tories and veteran barracks are very crowded and additional dormitories are needed to alleviate this condition. During the past two years there have been over 700 applicants that could not be accommodated for rooms. In addition to needed dormitories the landscaping around the present dormitories should be completed, service roads repaired so that it will do away with dust which is very bad in those dormitories bordering on the road. The war time furniture should be replaced. Mr. James Kehoe served as Dormitory Manager in the school year 1946-47 and Mr. Robert James was Dormitory Manager in 1947-48.

Off-campus housing. Previous to the war very few students resided off the campus, but as dormitory facilities were not available to take care of all students who desired to attend the University, it was necessary to establish an off-campus housing bureau and this office has been one of the most active on the campus since the war. Besides housing undergraduates, it has had the problem of housing faculty, graduate students, and married veterans who could not be accommodated on the campus.

There were not sufficient homes or apartments to take care of the normal residents of this area much less provide suffieient housing for the large number of students. It was necessary to conduct a continual survey of the area within a five mile radius of the University and encourage householders and landlords to take roomers and establish apartments. On the whole the householders cooperated, but very little assistance was obtained from the owners of the large apartment developments, except those in College Park. The statistical report on housing in 1947-48 shows students and faculty have been placed as follows:

Rooms	372
Apartments	81
Rented Houses	12
Purchased Houses	13

Four hundred and twenty rooms are available but only about 150 are within a radius of two miles of the University. There are a number of houses and apartments available for rent but they have not been taken because of the rent or distance from school. Housing presents a very serious problem because there are very few vacancies in the dormitories, and parents do not want 17 and 18 year old boys living off-campus. Another matter of great concern is finding living accommodations that graduate assistants can afford.

In addition to actually finding housing accommodations, the Housing Bureau worked with public utilities to improve the public transportation facilities to the campus. Mr. Doyle Royal headed up this work and has been most patient with the students in helping them solve their housing problems.

Veterans' Housing. For the first time the University had to concern istelf with the housing of the faculty and married students. This situation was met by the Federal Public Housing Authority erecting 104 apartments on the campus. About 175 families connected with the University found accommodations at Calvert Homes, a Public Housing Projects about

three-quarters of a mile from the campus and it is estimated that about 250 families have accommodations at Greenbelt.

The Home Economics Department provided lectures on nutrition, home decoration, child care and other pertinent subjects for the wives of the veterans and they were provided a well rounded social life as they were invited to attend concerts, plays, and many dances as well as other student social affairs.

Food Service

The dining hall manager was faced with the difficult problem of feeding a larger number of students than ever before with both limited kitchen and dining room facilities and a scarcity of food. Plans were under way for a new Dining Hall but because of the scarcity of material and labor it was not possible to complete the Dining Hall until the spring of 1948. Some of this difficulty was overcome by using self-service and by greatly increasing the length of meal hours. The students, in spite of the fact that they had to wait in long lines, accepted the situation as a matter of course and very few complaints were received from them.

In the spring of 1947 Mr. Charles Delahunt, the manager, died and Mr. Floyd Rush was appointed in the summer of 1947. He died in November and Mr. Robinson Lappin, former manager of the Capitol Park Hotel in Washington, D. C., was appointed manager of Food Service in February 1948.

The addition to the Dining Hall was completed in April and the complete change-over and installation of equipment will be accomplished in August thus making it possible to more adequate serve the students and special groups that come to the campus.

Meals served during fiscal year 1947-48 are as follows:

Regular Student Meals	1,004,223
Special Meals	13,410
Banquet Meals	3,020

The above provided for 2,080 students the first semester; 1,856 the second semester in the main Dining Hall and approximately 400 students and faculty for lunch and 350 for dinner in the cafeteria. The serving of special banquet meals, which were discontinued during the early post-war years, was re-instituted on a limited scale. There is a definite need for this service.

Student Health Service

The demands on Student Health Service increased in proportion to the increased enrollment and required considerable additional staff to maintain the Infirmary. Dr. Wolcott Etienne was appointed to full time position as Director of Health Service but he resigned as of October 1946, making it necessary to operate the Infirmary with four part-time physicians and seven nurses. During this whole biennum efforts were made to secure a full time physician. It was not until the spring of 1948 that Dr. Bishop was hired to take charge of the Health Service, starting in September 1948.

Even with a limited personnel, a very sanitary and health condition was maintained on the campus. An average of 63 students were treated daily in the Infirmary and in one year 350 State employees and 103 faculty members were given physical examinations and sanitary inspections were made on the campus and in fraternity and sorority houses. It is believed that the appointment of Dr. Bishop as head of Health Service on a full-time basis will be a great advance forward and certainly improve the service that can be rendered to the students and the general public health situation on the campus. Dr. Bishop is a retired Army Colonel and is a graduate of the University of Maryland Medical School.

The immediate needs are:

1. To provide adequate housing for nurses in close proximity of the Infirmary.
2. Improve the area in the vicinity of the Infirmary in order that ambulances may drive close to the building in order to pick up patients.
3. Provide sidewalks in order that students may reach the Infirmary without walking in mud.
4. Landscape the area in order to make the building more attractive, and to provide ground cover in order that dust will not blow in the treatment rooms when the widows are open.
5. Provide additional treatment rooms and laboratories.

Much credit for the successful administration of the Infirmary during this period is due to Miss Estelle C. Baldwin Supervisor of Nurses.

Student employment. In the fall of 1946 students were not much interested in accepting positions. Several times during the year it was necessary to carry advertisements in the school paper asking students to accept positions when there were openings on the campus and students were placed in jobs regardless of their need. Practically the same situation existed in the beginning of the school year 1947, but by the spring of 1948 students started to show more interest in jobs and by the end of the year there were more requests for student jobs than could be supplied which indicated a return to normal. During this period it was necessary for the student employment bureau to encourage students to take positions on and off the campus in order to keep the employers interested in student employment as it was realized that these jobs would be needed in a few years. Most of the student employment service was conducted by Mr. Charles Kunde who was a full time under-graduate student but who had served in North Africa as Personnel Officer and was discharged with the rank of major. Mr. Kunde left the University in the spring of 1948 to accept a commission in the Regular Army.

Recreation Building. A great service to the Daydodgers was the establishing of the Recreation Building. This was a long felt need and the students have made full use of this building since its completion. There is an average of 1,000 sales per day at the Snack Bar. It is estimated that 300 persons use the Game Room daily and 275 use the Lounge. Since April 15th, the meeting room has been used for several teas, one buffet supper, forty-one meetings and one Sunday afternoon musical.

Office of the Dean of Women

ADELE STAMP, *Dean of Women*

THE biennium of 1946-48 saw the enrollment at the University greatly increased. This was due to the G.I. Bill of Rights. Higher education was made possible for hundreds of young men and women who otherwise would never have had the privilege of a college education.

Many people have inquired what has been the effect on the campus, both academically and socially, of this large group of returning veterans. The effect has been excellent. The G.I.'s have brought with them a seriousness of purpose, a willingness to work, and a desire to make the most of their college education. They have mature judgment, and have acted as a steadying influence in all extra curricular affairs and organizations. Their background of experience, as well as their age, have made class discussions more stimulating and challenging. All student organizations have shown improvement due to the mature and experienced leaders. The G.I.'s have contributed much to the improvement of University life, both academically and socially.

Counseling and Guidance

This department is both an administrative and a personnel office. It deals with the welfare of the women students from every angle. The most important work of this department is, contact with the individual student, i.e., counseling and guiding the individual student. Required interviews are held with all freshman women, and all transfer women students. Required interviews are also held with all senior women. These interviews are written up for the cumulative record. A cumulative record of each student is kept on file in this office.

The above interviews are required. In addition, hundreds of students come to this office for help with their problems. These concern finances, social and extra curricular difficulties, as well as scholastic difficulties. This department works closely with the department of tests and measurements, and with the individual faculty members concerning students' scholastic difficulties.

The problems the students bring to us are many and varied, as they concern problems of human relationship in all its aspects. In no other field are there greater opportunities for service. Work in this field is very rewarding as particularly knotty problems are solved, and difficulties which to the student seem insuperable are ironed out. An opportunty to work with young women in their orientation to college, to aid them in making their work meaningful and beneficial, to help them develop worthwhile programs in their organizations is a privilege, and when successful, very gratifying.

That there has been some degree of success is evidenced by the increasing number of students who come to this office of their own volition, or because of the help a friend has received. Statistics give a picture to a certain extent, but for the most part the results are intangible and can-

not be measured by figures. In this biennium, 1,187 required interviews were held and written up for the cumulative record.

A well rounded guidance program should include interviews with all women students. This was possible when we had one half of our present enrollment, but it is impossible with our present staff, and with 2,538 women students. In order to have interviews with all women students, three full time counselors would have to be added to the staff.

Housing

The following statistics show the increase in the enrollment of women:

1944-45	1,463
1945-46	1,659
1946-47	2,032
1947-48	2,538

We have dormitory accommodations for only 575 women. They are housed in four dormitories—Margaret Brent Hall and Ann Arundel Hall, built for women, and Dormitory C and Dormitory F, built for men and loaned to us during the war period. These two must be returned to the men in 1948-49.

Two new dormitories are in the process of construction, and it is hoped they will be completed by the fall of 1948. These, however, will only take care of the students housed at present in the men's dormitories and will give us no accommodations for the steadyly increasing enrollment. The need for additional residence halls for women is acute. Daughters of Maryland taxpayers are unable to attend their State University because of lack of housing. We need a minimum of five dormitories, including the two in the process of construction.

We have attempted to meet the housing crisis by finding rooms in private homes, or placing students in privately operated boarding houses. This has been very unsatisfactory for the following reasons: First, the cost. Private householders charge from $25 to $50 a month for a room. Only a few students can afford this exorbitant rate. The householders have no difficulty renting their rooms to government clerks from Washington, and prefer them to students. Faced with the shortage of rooms in Washington, government employees are glad to rent rooms in this locale. This cuts down the meager supply of available rooms for students who can afford them. We have the same situation in the boarding houses, where the owners charge $100 a month for room and meals. The third difficulty is that of transportation. The houses are scattered from Laurel to Hyattsville, and where to eat and how to get back and forth are serious problems. Nearly forty percent of the students living in these houses drop out before the end of the year. Housing continues to be one of our chief problems.

This department also handles the housing of all Summer School students, and other special groups who come during the summer for short courses and institutes.

Extra Curricular Activities, Social Programs, and Student Organizations

This biennium saw a revival of prewar social activities, and also increased activities because of the enlarged student body. Over 400 social

functions were registered on the weekly social calendar by this office. Dancing continues to be the favorite recreation, and it is not unusual for fram 12 to 15 dances to be held on Friday and Saturday nights. These dances are held in fraternities, sororities, dormitories, and the gymnasium. Each dance or social function requires careful checking as to chaperonage, supervision, and planning. Whereas the problem of finding chaperones is always with us, there has been a definite improvement in the general situation. The deportment and standards have been, on the whole, satisfactory. Again, the more mature students have played their part in influencing the younger ones just out of high school toward a more dignified function. Social standards have been presented, both orally and in writing, to the social chairmen of all campus organizations, and to the housemothers. Their cooperation has been sought in maintaining the highest standards possible.

The work of the women's student organizations has shown progress. Just as the Student Government Association has reflected the better judgment of older students in responsibile positions, so has the Women's League proved itself efficient and capable in its enlarged and expanded program. The organization of dormitory councils, or social committees of coffee hours, of dormitory teas and dances have provided social training and responsibility for the students as well as enjoyable recreation. The overall picture on the campus, as far as student organizations are concerned, has shown marked improvement.

Mortar Board, Alpha Lambda Delta (Freshman Honor Society), Panhellenic, Indepedent Student Association, Day Dodgers Club, Red Cross College Unit chapter have functioned effectively during this biennium, and made a real contribution to campus life.

Religious Life

The duties of the Religious Life Committee offers one of the most meaningful channels in guilding students. In this field, perhaps more than any other, students are given an opportunity to be associated with the best, and to develop a philosophy of life which can help them to be happier and more useful citizens. In the past two years, the interest on the part of the students themselves in the realm of religion has been most encouraging and far reaching.

Cultural Program

A member of this department is Chairman of the Sub-Committee of the Public Functions Committee on the Cultural Program. The following artists were presented in 1946-47: Thomas L. Thomas, the National Symphony Orchestra, and the Salzedo Ensemble. During the academic year of 1947-48, the following programs were presented: National Symphony Orchestra, and Rise Stevens. Students attend these functions without charge.

Public Relations

One of the duties of this department is that of interpreting the University to the women of the State, and to the public generally. To that end

members of this department spoke to women's clubs, to service organizations, to high schools, to faculty clubs, and to educational organizations. The head of the department serves on boards and committees of such organizations as American Association of University Women, League of Women Voters, Maryland Women's Council, National Alpha Lambda Delta (Freshman Honor Society), Alpha Kappa Delta (National Sociological Honor Society), Edgar Allan Poe Memorial, and Women's Committee of the Baltimore Symphony.

Committee Participation: Membership on University Committees

The Dean of Women has served on the following committees, 1946-48: General Administrative Board, Student Life, Scholarship and Student Aid, Publications Board, Public Functions and Public Relations, Admissions, guidance and Adjustment, Homecoming, and Freshmen Week.

Membership in Campus Organizations

The Dean of Women has served and acted as faculty adviser on Committees listed below. This offers an opportunity to work with students in projects, which creates a relationship of friendliness and understanding between this office and the student body. May Day, Women's Recreation Association, Alpha Labda Delta, Mortar Board, Women's League, Publications Board, Panhellenic Council, and American Red Cross College Unit Chapter.

Division of Personnel and Placement

GEORGE W. FOGG, *Director*

THE work of this division, organized in 1946, covers five main divisions—certification of correct amounts for payment of all employees of the University; preparing or revising position classification studies of the more than 900 classified positions in the University; maintaining an information file on all employees; supplying research and statistical information to University and state officials; assisting employees in their relations with the University and state agencies such as the retirement systems and the State Employment Commissioner.

The recruiting and checking of incoming personnel, theoretically a function of the Merit System, has been handled largely through this office. While it has not been possible to fill positions immediately upon their vacancy it is possible to meet minimum needs by means of advertising, checking with agencies, inquiry through existing employees and contact with high schools. Waiting lists do not exist at present. Persons located and appointed through these means average 80 a month for the last two years.

The rate of turnover at the University is lower than that of the Federal Government, averaging about 30% for the last two years against 36% for

the Federal service. The principal reasons for separation in order named are: 1. Salary (clerical and fiscal workers principally), 2. eligibility for higher class in another employment, 3. family difficulties, 4. separation at the request of the University.

The number of payments certified has increased from 2,078 in July 1946 to more than 4,000 in June, 1948. Each such payment means two checkings to the official roster to insure that the amount is correct, that the title is correct and that the employee has been properly registered with the State Employment Commissioner. There is an average of 300 changes a month in names, salaries and titles on the payroll.

468 position classification studies have been conducted and 108 are still pending. These involve long interviewing in doubtful cases and extensive correspondence with the State Employment Commissioner.

In addition more than 1,700 credit inquiries about present or past employees, several hundred FBI and loyalty check inquiries, and 166 questionnaires of various lengths on pay scales, retirement practices, etc., have been answered.

The combination of all official records into one set at College Park to include Baltimore, Princess Anne and other groups is under way. The process of bringing up to date the personal data on members of the faculty has required a great number of follow-ups but is progressing.

This office is preparing a procedure manual which, it is hoped, will enable all offices to have at hand correct and up-to-date data in regard to pay practices, leave, hours of labor and appointing and certification practices. Preliminary pages are issued as prepared and a complete binder will be issued when all parts are complete.

There is a definite need for employee welfare and morale building activities, including, possibly an employees bulletin, opportunities to learn about the institution and an increase in the number of occasions where numbers of employees may meet as a group.

Department of Alumni Affairs

DAVID L. BRIGHAM, *General Secretary*

EFFORTS to reactivate the University of Maryland Alumni organization commenced in December 1946 with the publication of the new alumni magazine "MARYLAND". This was first sent to approximately 10,000 graduates of the College Park schools and in April 1947 circulation was extended to include alumni of the Baltimore Branch which brough the total mailing to over 21,000 copies each month. In February 1947 a full time Executive Secretary was appointed and an Office of Alumni Affairs established. Located in the Administration Building, it was later moved to the Rossborough Inn to serve as the focal point for alumni activities. Individual History Records were destributed to all alumni and detailed information obtained for approximately 14,000 former students. Partial information was obtained for an additional 10,000. Addressograph plates were prepared for all alumni and card files were established on an alphabetical, geographical, school and class basis.

Initial steps were taken to establish a strong central alumni organization which included the establishment of individual Chapters or School Associations for Agriculture, Arts and Sciences, Business and Public Administration, Education, Engineering, and Home Economics. An Association which had included alumni of all College Park Schools was dropped in favor of the new plan to establish School Associations. The six organizations now in operation for the College Park branches have equal status with the five Baltimore School Associations of Dentistry, Law, Medicine, Nursing, and Pharmacy. The latter five, with the exception of Law, which was reorganized in early 1948, have been active for a number of years. Each School Association now sends three representatives to a general Alumni Council made up of thirty-three members plus the President of the University and the Executive Secretary. This is the administrative body for the over-all University of Maryland Alumni Association.

The Office of Alumni Affairs in cooperation with the Council of the Alumni Association has directed Homecoming activities for both 1947 and 1948. These functions featured luncheons, receptions, dances and meetings of individual School chapters. During the past year at least one special function has been presented by each of the eleven School associations.

Active committees representing all Schools have been appointed to consider and develop (a) an alumni scholarship program, (b) alumni clubs, (c) publications and publicity, (d) alumni student and faculty relations and (e) to direct special events such as Homecoming and Charter Day. The Publications Committee is now placing major emphasis, with marked success, on commercial advertising for the alumni publication "MARYLAND", edited and managed by Colonel Harvey L. Miller, Director of Publications. Alumni clubs have been organized in New York and Cumberland with preliminary ground work laid for additional clubs in all counties of the State and major cities of the country. The New York Club sponsored a Day in September 1948 to honor Charlie Keller of the New

York Yankee baseball team. In so doing they raised sufficient funds for the establishment of two scholarships to the University in Keller's name.

The Office of Alumni Affairs directed the Honors and Awards Assemblies in both 1947 and 1948 where recognition is given outstanding students for leadership, citizenship, scholastic and athletic achievement.

Definite plans for actions in the immediate future include (a) the extensive development of alumni clubs, (b) the raising of funds to establish scholarships to the University of Maryland, (c) the presentation of at least two major functions for all alumni (Homecoming and Charter Day) on an annual basis, (d) at least one annual function under the sponsorship of each Chapter for the eleven School Associations, (e) several campaigns to increase subscriptions to the alumni magazine and to obtain advertising, (f) formation of an alumni chapter for the new college of Military Science, Physical Education and Recreation when the number of graduates warrants such action and (g) participation in the establishment of a memorial on the campus to veteran's of the two World Wars. Individual School Associations will undertake numerous other projects designed to prove of benefit to the University of Maryland. Consideration is also being given redecoration of the Rossborough Inn and its establishment as headquarters for all University alumni functions.

Office of the Registrar

ALMA H. PREINKERT, *Registrar*

SERVING the greatest number in its history, 20,349 persons attended the varied offerings of the University during 1947-48. Of this number, 15,146 were registered for credit courses, 1,336 for non-credit courses, and nearly 4,000 attended 17 short courses and conferences. The increase over the preceding year is 3,705 or 22%, and for the two-year period, 9,142 or 82%. At College Park, there was a one-year increase in academic students attending the regular year and summer school of 3,454 or 39%, and a two year increase of 8,036 or 184%. The Baltimore schools show a one-year increase of 412 students or 16%, and a two-year increase of 1,049 or 55%. The one-year increase, for academic work in College Park and Baltimore, including summer school is 3,720 or 33%, with a two-year increase of 8,883 or 142%.

While the majority of the students come from Maryland, every state in the United States as well as the District of Columbia, Hawaii, Puerto Rico and the Canal Zone are represented in the enrollment. In addition, the University is making an important contribution to international understanding through its foreign students, who in connection with their studies are learning the American way of life. During 1947-48, 83 foreign students came from 22 different countries. The largest groups were from China with 13 students, from India with 12, and from Peru with 10.

During the biennium, the University has awarded 2,156 degrees and certificates, an increase of 876 (61%) over the last biennium when 1,280 degrees and certificates were awarded. Degrees awarded by the College Park colleges totaled 1,540 as compared with 608 during the last biennium, representing an increase of 932 or 153%, and in the Baltimore schools the total was 601 as compared with 649, a loss of 48 or 8%. The larger number in the Baltimore schools during the last biennium was due to the accelerated war program when classes graduated more rapidly than once a year.

Veterans of World War II, studying under Public Laws 16 and 346, began to register in 1943-44 when 9 students attended the University. In 1947-48 the number had increased to 7,273 or 52% of the total academic student body, with 6,047 or 54% at College Park and 1,226 or 43% in Baltimore. A larger percentage of students were veterans during 1946-47 when 6,256 veteran students constituted 57% of the total enrollment.

Tables giving details on enrollment; geographical distribution of students; the veterans; instructional staff; degrees conferred and certificates awarded; and the departmental teaching loads at College Park follow.

ENROLLMENT OF STUDENTS

COLLEGE PARK

Resident Collegiate Courses:

Academic Year	1946-47			1947-48		
	Men	Wo-men	Total	Men	Wo-men	Total
College of Agriculture	544	26	570	739	20	759
College of Arts and Sciences	1,631	947	2,578	2,140	916	3,056
College of Business and Public Administration	1,414	136	1,550	1,826	117	1,943
College of Education	250	411	661	483	384	867
College of Engineering	1,663	11	1,674	1,658	4	1,662
College of Home Economics	6	363	369	18	382	400
College of Military Science, Phys. Ed. and Rec.	13	0	13	36	0	36
College of Special and Continued Studies	New college, '47-48			687	288	975
Graduate School	1,001	138	1,139	1,155	427	1,582
Total Academic Year, Less Duplications	6,522	2,032	8,554	8,742	2,538	11,280
Summer Session	920	429	1,349	2,274	842	3,116
Total Resident Collegiate, College Park, Less Duplications	6,724	2,244	8,968	9,376	3,046	12,422
Extension Courses:						
Fire Service	933	0	933	1,200	0	1,200
Mining	151	0	151	136	0	136

Short Courses and Conferences:						
Athletic Coaching School.....	0	0	0	14	0	14
Conference on Professional Relations	70	160	230	0	0	0
Dairy Herd Imp. Assoc. Supervisors Short Course..	8	1	9	9	1	10
Dairy Herd Imp. Assoc. Testers Training Course....	0	0	0	11	0	11
Dairy Inspector's and Tech. Conference	183	3	186	222	3	225
Design of Concrete Mixes....	0	0	0	34	0	34
Fireman's Short Course.....	240	0	240	225	0	225
Grecnkcepers Short Course..	46	0	46	70	0	70
Insect and Rodent Control School.....	58	2	60	0	0	0
Local 4-H Club Leaders' Training School.....	0	0	0	87	0	87
Md. Congress of Parents and Teachers	14	218	232	22	212	234
Md. 4-H Club Week.....	631	416	1,047	384	652	1,036
Md. Tax Assessors' School..	75	0	75	105	0	105
Model Legislature.....	0	0	0	195	0	195
National Conference of American Handweavers....	4	40	44	0	0	0
Ornamental Garden School..	21	281	302	16	98	114
Planning of School Buildings Institute.....	140	60	200	0	0	0
Public Speaking Short Course for Ladies' Aux. to Volunteer Firemen.....	0	25	25	0	0	0
Rural Women's Short Course	0	922	922	0	885	885
Sand & Gravel Technicians	28	0	28	0	0	0
Short Course for Canner's, Freezers and Fieldmen.....	241	2	243	350	0	350
Short Course for Motor Vehicle Fleet Supervisors	41	0	41	0	0	0
Tractor Maintenance School for 4-H Club Leaders.....	29	0	29	0	0	0
Vocational Agricultural Field Day.....	175	0	175	250	0	250
Workshop in Family Life Education	0	0	0	0	23	23
Total Short Courses and Conferences	2,004	2,130	4,134	1,994	1,874	3,868
Total All Courses, College Park, Less Duplications..	9,812	4,374	14,186	12,706	4,920	17,626

BALTIMORE

Resident Courses:

Academic Year	1946-47 Men	1946-47 Women	1946-47 Total	1947-48 Men	1947-48 Women	1947-48 Total
School of Dentistry	282	1	283	297	4	301
School of Law	310	12	322	381	18	399
School of Medicine	334	34	368	319	29	348
School of Nursing	0	199	199	0	187	187
School of Pharmacy	184	18	202	227	20	247
College of Education	665	190	855	0	0	0
College of Special and Continued Studies	0	0	0	661	316	977
Graduate School	187	88	275	256	150	406
Total Academic Year, Baltimore, Less Duplications	1,955	541	2,496	2,128	723	2,851
Summer School	101	9	110	174	21	195
Total Baltimore, Less Duplications	1,998	546	2,544	2,213	743	2,956
Grand Total, All Courses, Less Duplications, College Park and Baltimore	11,742	4,902	16,644	14,757	5,592	20,349

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

Collegiate Students — Academic Year

States	1946-47 College Park	1946-47 Baltimore	1947-48 College Park	1947-48 Baltimore
Alabama	8	3	14	2
Arizona	3	0	4	0
Arkansas	4	0	7	0
California	22	13	39	13
Canal Zone	0	1	0	3
Colorado	1	0	6	3
Connecticut	33	19	67	25
Delaware	11	5	23	7
Florida	34	11	42	10
Georgia	17	2	17	6
Hawaii	0	1	3	2
Idaho	1	1	3	1
Illinois	24	8	42	7
Indiana	8	6	16	4
Iowa	7	1	8	0
Kansas	3	1	7	1

Kentucky	6	1	10	0
Louisiana	4	0	11	0
Maine	6	3	12	5
Maryland	5,572	1,969	7,133	2,317
Massachusetts	43	26	85	24
Michigan	15	5	19	5
Minnesota	11	3	13	2
Mississippi	5	1	6	1
Missouri	16	1	16	0
Montana	1	1	3	1
Nebraska	9	3	8	2
Nevada	0	2	0	1
New Hampshire	1	4	4	3
New Jersey	129	51	208	45
New Mexico	3	1	4	0
New York	179	42	253	29
North Carolina	14	42	29	40
North Dakota	1	0	7	0
Ohio	31	10	61	14
Oklahoma	4	0	9	1
Oregon	2	2	2	2
Pennsylvania	183	65	302	65
Puerto Rico	21	29	27	31
Rhode Island	10	14	18	16
South Carolina	11	5	9	8
South Dakota	5	0	2	0
Tennessee	7	1	14	2
Texas	30	2	25	3
Utah	1	1	5	3
Vermont	6	5	3	6
Virginia	254	29	425	27
Washington	5	2	12	0
West Virginia	37	62	59	69
Wisconsin	8	2	14	3
Wyoming	1	2	3	1
	6,807	2,458	9,109	2,810

	1946-47		1947-48	
	College Park	Baltimore	College Park	Baltimore
District of Columbia	1,706	26	2,106	23
Foreign				
Bolivia	1	0	5	0
Brazil	0	2	1	2
British Guiana	1	0	0	0
Canada	3	0	3	1
China	4	2	12	1
Columbia	4	0	3	1

Costa Rica	1	0	1	0
Cuba	2	3	1	3
Ecuador	0	0	1	0
Egypt	2	1	1	1
France	0	0	1	0
Germany	0	0	0	1
Greece	2	0	2	0
Guatemala	0	0	1	0
India	2	2	7	5
Iran	2	0	3	0
Iraq	1	1	0	2
Mexico	2	0	1	0
Netherlands	1	0	0	0
Panama	1	1	0	0
Peru	9	0	10	0
Philippines	0	0	6	0
Trinidad	2	0	1	1
Turkey	0	0	2	0
Venezuela	1	0	3	3
Total Foreign	41	12	65	18
Totals				
States	6,807	2,458	9,109	2,810
District of Columbia	1,706	26	2,106	23
Foreign	41	12	65	18
GRAND TOTAL	8,554	2,496	11,280	2,851

STUDENTS CREDIT HOURS OF INSTRUCTION BY DEPARTMENTS AND COLLEGES AT COLLEGE PARK FOR ENTIRE YEAR, INCLUDING SUMMER SCHOOL

	1946-47	1947-48
Agriculture	10,410	13,281
Arts and Sciences:		
Art	350	756
Bacteriology	3,187	3,505
Chemistry	18,907	18,904
English	32,288	38,912
Foreign Languages	11,903	14,818
History	8,455	17,378
Mathematics	24,893	28,423
Music	665	878
Philosophy	0	82
Physics	4,779	9,393
Psychology	4,762	7,241
Sociology	12,195	14,042
Speech	7,467	10,185
Zoology	9,989	12,864
Total Arts and Sciences	139,840	177,381

BPA	38,232	52,813
Education	5,523	9,891
Engineering	12,993	16,359
Home Economics	5,368	6,450
Library Science	508	677
Military Science	4,188	7,908
Physical Education (Men)	3,167	5,917
Physical Education (Women)	4,699	5,413
Totals	224,928	296,090

MEMBERS OF STAFF ENGAGED IN INSTRUCTION

BALTIMORE

	1946-47	1947-48
Arts and Sciences	5	10
Dentistry	60	68
Education	58	....
Law	17	20
Medicine	400	445
Nursing	43	22
Pharmacy	21	25
Special and Continuation Studies	....	60
Total Baltimore, Less Duplications	530	561
Grand Total, College Park and Baltimore, Less Duplications	1,161	1,426

(Registrar's Report continued on next page)

COLLEGE PARK — 1946-47

	Agriculture	Arts and Sciences	Business and Public Administration	Education	Engineering	Home Economics	Library Staff	Physical Education	Military	Summer School Only	Total Less Duplications
Professors	17	20	17	3	6	3	1	3	....	....	76
Lecturers	5	14	2	....	9	1	....	....	....	....	31
Associate Professors	19	24	8	4	7	5	....	1	....	....	68
Assistant Professors	4	33	4	1	4	10	....	7	7	....	69
Instructors	4	89	13	11	17	....	3	8	2	....	146
Assistants	3	11	2	....	4	....	....	1	1	....	22
Research Associates	1	....	....	....	....	....	....	....	....	....	1
Graduate Assistants	14	106	2	....	....	....	....	1	....	....	123
Fellows	....	2	1	1	2	....	....	....	....	....	6
Undergraduate Assistants	....	6	....	....	2	....	....	....	....	....	8
Critic Teachers	....	....	....	50	....	....	....	....	....	....	50
Extension	....	....	....	....	26	....	....	....	....	....	24
					....	....	....	....	....	18	18
Total	67	311	49	70	77	19	4	21	10	18	642

1947-48

Professors	24	36	20	10	6	3	....	4	....	....	100
Lecturers	4	17	1	2	9	....	....	....	....	....	32
Associate Professors	17	28	7	6	12	1	1	2	....	....	73
Assistant Professors	8	34	4	2	5	7	....	7	13	....	78
Instructors	5	122	26	12	25	10	2	13	4	....	218
Assistants	6	34	1	....	12	....	2	1	1	....	57
Research Associates	1	....	....	....	....	....	....	....	....	....	1
Graduate Assistants	14	124	3	1	....	....	....	1	....	....	143
Fellows	....	1	1	....	2	....	....	....	....	....	4
Undergraduate Assistants	....	6	....	....	1	....	....	....	....	....	7
Critic Teachers	....	....	....	80	....	....	....	....	....	....	80
Extension	....	....	....	2	41	....	....	....	....	....	40
					....	....	....	....	....	32	32
Total	79	402	63	115	113	21	5	28	18	32	865

DEGREES AND CERTIFICATES

	1946-47			1947-48			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Honorary Degrees	1	.....	1	6	.....	6	7	.....	7
Honorary Certificates of Merit in Agriculture	3	1	4	3	1	4	6	2	8
COLLEGE PARK									
College of Agriculture, B. S.	36	2	38	61	2	63	97	4	101
College of Arts and Sciences, B. A.	38	99	137	60	122	182	98	221	319
B. S.	22	37	59	39	49	88	61	86	147
College of Business and Public Administration, B.S.	44	8	52	100	17	117	144	25	169
College of Education, B.A.	6	19	25	13	17	30	19	36	55
B.S.	24	53	77	33	53	86	57	106	163
College of Engineering, B.S.	67	.....	67	91	1	92	158	1	159
College of Home Economics, B.S.	1	47	48	.....	59	59	1	106	107
College of Military Science, Physical Education, and Recreation, B.S.	2	.....	2	9	.....	9	11	.....	11
Total Bachelors Degrees:									
Bachelor of Arts	44	118	162	73	139	212	117	257	374
Bachelor of Science	196	147	343	333	181	514	529	328	857
Total	240	265	505	406	320	726	646	585	1,231
Graduate School:									
Doctor of Philosophy	19	4	23	25	.....	25	44	4	48
Master of Arts	14	10	24	20	10	30	34	20	54
Master of Science	22	4	26	55	8	63	77	12	89
Master of Education	33	6	39	47	22	69	80	28	108
Master of Business Administration	6	.....	6	3	.....	3	9	.....	9
Total, Graduate School	94	24	118	150	40	190	244	64	308
Professional Engineer—Mechanical Engineer	.....	.....	.....	1	.....	1	1	.....	1
Total Degrees in Course at College Park	334	289	623	557	360	917	891	649	1,540

BALTIMORE

	1946-47			1947-48			Total for Biennium		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
School of Dentistry, D.D.S.	76	.....	76	67	1	68	143	1	144
School of Law, LL.B.	38	3	41	62	1	63	100	4	104
Certificates of Proficiency	.....	.....	.....	2	.....	2	2	.....	2
School of Medicine, M.D.	93	4	97	72	5	77	165	9	174
School of Nursing, Graduate in Nursing	.....	87	87	.....	51	51	.....	138	138
School of Pharmacy, B.S. in Pharmacy	15	1	16	20	3	23	35	4	39
Total Degrees and Certificates in course at Balto.	222	95	317	223	61	284	445	156	601
Grand Total, All Degrees and Certificates, College Park and Baltimore	560	385	945	789	422	1,211	1,349	807	2,156

WORLD WAR II VETERANS

STUDYING UNDER PUBLIC LAWS 346 and 16 DURING ACADEMIC YEAR

	College Park				Baltimore				College Park and Baltimore	
	Men	Women	Total	Per Cent of Total	Men	Women	Total	Per Cent of Total	Total	Per Cent of Total
1943-44	9	0	9	.2	0	0	0	0	9	.2
1944-45	84	2	86	3%	74	0	74	4%	160	4%
1945-46	1,375	17	1,392	33%	339	2	341	18%	1,733	29%
1946-47	5,061	76	5,137	60%	1,110	9	1,119	45%	6,256	57%
1947-48	5,971	76	6,047	54%	1,210	16	1,226	43%	7,273	52%

The University Libraries

HOWARD ROVELSTAD, *Acting Director*

The Physical Plant

IN College Park the opening, in February, 1947, of the Library Annex with its approximately 300 seats and a small seminar room has provided partial and temporary relief to the extremely over-crowed conditions that exist in the main building. However, the situation remains acute. The working space for the library staff becomes increasingly inadequate for all departments of the library.

The problem of housing books grows more difficult each year. The stacks are overflowing on all floors. Practically all carrells must now necessarily be used for book storage.

The Library Committee and Staff have worked on the plans for a new building. It is hoped that these plans may be carried to completion as soon as possible.

The crowded conditions in the Baltimore libraries are almost as critical. The ever-present problem of overcrowded shelf space and work space continues. In less than another academic year, remaining shelf space will be completely filled in the Dental-Pharmacy Library. Seating capacity is extremely low for the size of the student body. It is agreed by the deans of the Dental, Medical and Pharmacy schools that a new building for the combined libraries should be planned for as the solution to the problem. The Librarian of these schools and the Acting Director of Libraries are, of course, highly in favor of such a plan, as it would not only provide for the future physical growth of the libraries, but would be an advantage in matters of administrative policy, personnel, book selection, and various minor details now complicated by the divided arrangement. With the three book collections combined, the result would be an outstanding library in its field.

School of Nursing Library Established

In July, 1946, it was decided that a library should be set up in the School of Nursing organized according to standard library practice in such a way as to meet requirements for accrediting. It was further decided that the Librarian of the School of Medicine would serve as administrator of the library. A room was prepared, equipment and furniture purchased, and books selected. The Library Committee and Alumnae of the School of Nursing aided greatly in these projects. On June 20, 1947, the library was dedicated and accepted by President Byrd and the Acting Director of Libraries, as a permanent part of the library system of the university.

It might also be mentioned that "ward libraries" (collections of urgently needed practical texts for quick reference) were placed on the thirteen floors of the University Hospital. The 154 volumes which make up these libraries were purchased and processed by the School of Nursing Library, and form one of the most practical units of the library service.

The Book Collection

The number of cataloged volumes added to the collections during the biennium totalled 19,286. Table I presents figures by libraries.

Table I. Volumes Added, 1946/48

	1946-47	1947-48	Total
College Park	5,653	6,548	12,201
Baltimore—Dental Library	578	669	1,247
Law Library	361	752	1,113
Medical Library	978	1,493	2,471
Nursing Library	1,011	569	1,580
Pharmacy Library	310	364	674
Total—All Libraries	8,891	10,395	19,286

In current book and periodical publishing the library at College Park has been able to purchase all of the pertinent material in the fields covered by the various curricula. Of the older material emphasis in selection has continued to be placed on Americana, engineering, chemistry, mathematics and foreign languages items. Many periodical sets, the backbone of every university library, have been filled in, either fully or in part, and runs of new tiles have been added, such as *The Analyst, (London), Archives of Psychology, Journal of Air Law, Journal of American Folklore, Transactions of the Faraday Society,* and *Transactions of the American Mathematical Society.* Fortunately much foreign material has become rather readily available again. Many books and periodicals published in England, the South American countries, France and Spain have been added to the collection.

The collections of the professional schools in Baltimore have been added to rather extensively. Besides the current material for the working collections significant additions were made to the special collections on anaesthesia and to the historical book collection in the Dentistry Library. An especially significant purchase was one of ninety foreign- language volumes on dentistry from the scientific library of Auguste Eternod of Geneva, Switzerland, covering chiefly the hundred years from 1809-1909. Of the gifts received from various sources, two of special importance may be mentioned: forty-two volumes on modern dentistry presented by Major-General Robert H. Mills and various volumes presented by the Alumnae of the School of Nursing. Through the generosity of the Alumni and friends of the School of Medicine the restoration of the Crawford collection of historical medical books proceeded very satisfactorily.

Book Stacks

On June 30, 1948, volumes available in the University Libraries after adjustments caused by the withdrawal of worn out and superseded books, totalled 211,736. This represents an increase of more than 19,000 volumes over the last biennium statement. Table II shows holdings by libraries.

Table II. Volumes in Libraries, June 30, 1948

College Park	136,611
Baltimore—Dental Library	13,252

Law Library	20,347
Medical Library	29,209
Nursing Library	1,537
Pharmacy Library	10,780
Total—All Libraries	211,736

Classification and Cataloging

College Park

The period under review has been marked by a rather slow flow of material through this important phase of library activity, as for much of the time the Catalog Department consisted of only one or two professional librarians. The backlog of material to be processed continued to increase. Work on the Catalog Department Manual of Procedures was completed, and a system for continuous revision was set up.

Table III. Catalog Department Statistics (College Park)

Year	Number of Volumes	Cards made for Catalog	Cards made for Shelflist
Classification and Cataloging:			
1946-47	5,653	12,977	4,867
1947-48	6,548	10,667	5,524
Total	12,201	23,644	10,391
Reclassification and Recataloging:			
1946-47	873	2,314	472
1947-48	802	2,388	494
Total	1,675	4,702	966
Grand Total	13,876	28,346	11,357

Baltimore

In our Baltimore libraries the work of classification and cataloging has kept pace with acquisitions. The processing of books for the School of Nursing Library has been carried on by the staff of the School of Medicine Library.

Table IV shows the number of volumes processed by Libraries.

Table IV. Classification and Cataloging (Baltimore)

	1946-47	1947-48	Total
Dental Library	287	436	723
Law Library	361	752	1,113
Medical Library	678	3,367	4,045
Nursing Library	684	239	923
Pharmacy Library	238	239	477
Total	2,248	5,033	7,281

Use of the Libraries

Circulation statistics reveal only a small portion of the services provided by the libraries. The extent of the assistance given students in carrying out their study programs is for the most part immeasurable. Even more intangible are the effects of this library service on students. However, loan statistics do provide one objective means of determining the use made of the libraries and also do provide a measurement of the work performed by the staff.

The total circulation figure for all libraries is 313,438 compared with 207,641 for the preceding biennium. The figure for College Park is 279,050 compared with 172,644 for the 1944-46 period. This represents an increase of about sixty-two per cent.

Table V shows recorded loans of all types.

Table V. Recorded Loans—All Types

	1946-47	1947-48	Total
College Park	135,927	143,123	279,050
Baltimore*			
Dental Library	5,573	6,112	11,685
Law Library	.....	.....	.....
Medical Library	6,731	8,264	14,995
Nursing Library	.....	3,128	3,128
Pharmacy Library	2,513	2,067	4,580
Total	14,817	19,571	34,388
Grand Total	150,744	162,694	313,438

*A record of material used in the libraries has not been maintained.

The Staff

Changes in Personnel

From the following record of changes in personnel it is apparent that our salaries are too low to retain personnel. On February 17, 1948, a proposed salary schedule for state classified librarians was presented with its justification. Our salaries must be increased if we are to attract librarians who will want to make their work at the University of Maryland their careers.

At College Park your present Acting Director of Libraries took over his duties on July 1, 1946, following the resignation of Mr. Carl W. Hintz, who left to accept the position of Librarian of the Chicago Natural History Museum.

In the Catalog Department Mrs. Louise W. Getchell resigned as Head Cataloger, effective September 1, 1946, to accept a position at the Library of Congress. On October 1, 1946, Miss Lois Holladay was appointed Head Cataloger. Mrs. Adelheid Ladewig resigned her position of Assistant Cataloger on December 15, 1946. Mrs. Theresa Veverka was appointed as Junior Assistant Librarian, effective February 1, 1947. Mrs. Velma Charlesworth was appointed as Assistant Cataloger, effective October 6, 1947, and resigned as of March 5, 1948. Mrs. Thera Cavender was appointed Assist-

ant Cataloger as of June 1, 1947, and resigned from the same position as of August 28, 1947.

In the Loan Department our very able Loan Librarian, Mrs. Jane B. Hobson, resigned as of September 24, 1947, to accept a position as Librarian in charge of the Elementary School Libraries of East Orange, N. J. On September 1, 1947, Miss Betty B. Baehr was appointed Assistant Loan Librarian and then Acting Loan Librarian on Mrs. Hobson's departure. On November 1, 1947, her classification was changed to that of Instructor of Library Science, and then on May 1, 1948, she was appointed Loan Librarian. To assist in the staffing of the Library Annex Mrs. Frances M. Bezanson and Mrs. Ruth S. Haun were appointed as Senior Assistant Librarian and Junior Assistant Librarian, respectively, on February 1, 1948.

Miss Virginia Phillips' appointment as Assistant Reference Librarian was effective on July 1, 1946.

Miss Alice Robinson, Librarian of the Cleveland Heights High School, Cleveland, Ohio, was appointed as Instructor in Library Science to teach the courses in School Library Administration and Book Selection for School Libraries offered during the Summer Session of 1948.

On the Baltimore staff the personnel situation has improved. On January 15, 1947, Miss Rebecca Elam was appointed to the position of Cataloger and Mrs. Elizabeth Crouse to the position of Senior Assistant Librarian in the Dental-Pharmacy Library. On July 31, 1946, after many years of faithful service, Mrs. Ruth Lee Briscoe retired, and in March, 1946 Miss Julia Wilson resigned from her position in the Medical Library. Mrs. Florence Kirk was transferred on July 1, 1947, from a position of Senior Assistant Librarian in the Dental Library to a similar position in the Medical Library, and Miss Mary Hicks was appointed Assistant Librarian in the Medical Library, effective February 24, 1947. Mrs. Simone C. Hurst was engaged in September, 1946, as Librarian-in-charge of the Nursing Library.

Mrs. Williard B. King was appointed as Instructor in Library Science to be in charge of the library organized for the Baltimore Summer Session for Colored Teachers, 1948.

Professional Activities

Members of the library staff have been especially active in the work of professional organizations. The staff has had active representatives in the following organizations: American Library Association, Maryland Library Association, Special Libraries Association, Association of College and Reference Libraries, Medical Library Association, Law Library Association, District of Columbia Library Association, Maryland, Virginia and the District of Columbia Group of Catalogers and Classifiers, American Association of University Women, American Association of University Professors, and American Historical Association. Staff members attended many of the regular and annual meetings of the various organizations of the library profession.

Many of the staff members have served on committees and held appointive and elective offices in these organizations. Only a few of these

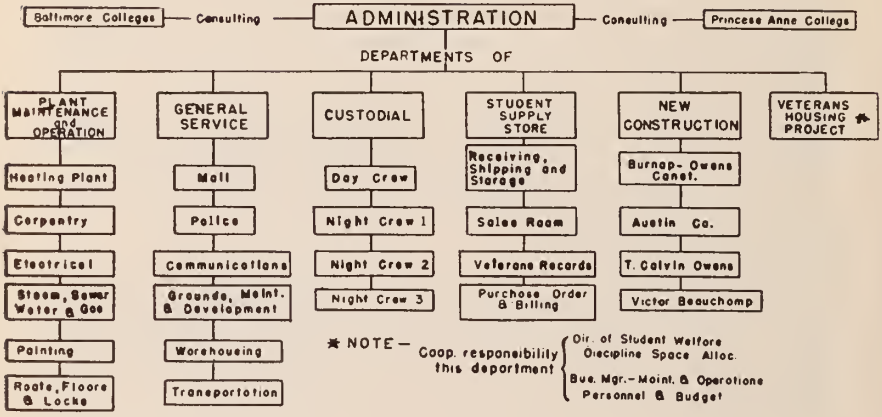
activitics will be mentioned here. Mrs. Ida M. Robinson has served for two years as Chief of the Medical Library Association Placement Bureau. At the request of the Medical Library Association Mrs. Robinson, together with her committee, made up of personnel from our libraries, conducted an extensive survey of personnel and salary standards in libraries of the medical sciences in the United States, a project never before undertaken. The results of this survcy were presented at the annual meeting of the association in Philadelphia in May, 1948. Mrs. Robinson gave the complete report, and thc separate group reports were given by Miss Mary Hicks to the medical division, Miss Beatrice Marriott to the dental division, Miss Hilda Moore to the pharmacy division, and Mrs. Simone Hurst to the nursing and hospital division.

Miss Lois Holladay has served as the Maryland representative on the council of the Regional Group of Catalogers and Classifiers. Mrs. Jane Hobson served as chairman of the College and University Group of the Special Libraries Association, Washington, D. C., Chapter, and as chairman of the Nominating Committee of the same group of the Special Libraries Association.

The Acting Director of Libraries has served on two national committees, one of the Amcrican Library Association which is writing a handbook on library personnel practices and procedures, and the other of the Association of College and Reference Libraries. During 1947-48 he held a vice-presidency office of the Maryland Library Association and is a member of the Library School Survey Committee of the same organization, as well as a member of the Professional Activities Committee of the Special Libraries Association, Washington, D. C., Chapter.

Acknowledgments

Despite the difficulties of this biennium, which has been marked by the increased demands made upon the libraries and by a shortage and continual turnover in personnel, I feel that much has been accomplished. This has been made possible by the hard work and cooperation of the library staff, and the considerate understanding and help of administrative officers and faculty, especially the President and deans.



Division of Business Management

GEORGE O. WEBER, *Business Manager*

THE physical plant of the University of Maryland has of necessity expanded during the two year period in review in order to accommodate the increase in student and staff population.

The first building started in this biennium under Title V of the Lanham Act as administered by the Federal Public Housing Authority was the Veterans' Housing Project. Twenty-two buildings encompassing 83,060 square feet of floor space were dismantled and transported from Portsmouth, Virginia Naval Base and Camp Davis, North Carolina Army Cantonment to the campus and re-erected to provide housing for 104 veteran student families and over 700 single veteran students. This project, valued at $720,000.00, was completed in December 1946.

Concurrently with the start of the biennium, a reorganization of the Operating Departments of the University occurred placing these all in the Division of Business Management as shown in the accompanying chart. This definitive organization was found to be far more effective in accomplishing the necessary operating functions and permitted a better accounting of work accomplished, materials used and specific cost analysis of the operations of the physical plant.

A schedule of new permanent buildings completed during this biennium are as follows:

	Name	Sq. Ft. Area	Cu. Content	Cost
1.	Experimental Wind Tunnel....	23,972	285,000	$1,257,571.41
2.	Dorm M (men).....	7,920	106,500	
3.	Dorm N (men).....	15,782	147,298	490,000.00
4.	Dorm O (men).....	8,980	115,000	
5.	Classroom Building.....	25,500	393,508	310,567.18
6.	New Agriculture Building.....	55,764	808,959	640,263.94
7.	Addition to Dining Hall.....	47,343	1,112,565	468,653.14
8.	Dorm 2 (women).....	24,690	Uncomputed	687,000.00
9.	Dorm 3 (women).....	38,360	Uncomputed	

To provide sufficient classroms, laboratory, recreational, seminar and storage facilities, for the increased enrollments, the University of Maryland was forced to build many semi-permanent and temporary structures. The outstanding of this type of emergency construction were the ten frame buildings erected on the campus under the control of Federal Works Administration program. Other similar emergency structures are shown in the following schedule:

	Name	Sq Ft. Area	Cu. Content	Cost
1.	Federal Works Program Bldgs. AA, BB, CC, DD, EE, FF, GG, HH, Recreation Center and Library Annex.....	95,000	950,000 cst	$600,000.00
2.	One Story Women's Dorm (Pi Beta Phi Sorority).....	3,810	44,800	23,000.00
3.	Wings on One Story Dorm Erected by F. P. H. A. (Kappa Alpha Theta).....	960	10,560	6,000.00
4.	Soils Research Laboratory Constructed by U. S. Army Engineers		Not Available	
5.	Miscellaneous Buildings			
	a. Surplus Warehouse (Quonset)	4,000	62,832	10,000.00
	b. Animal Husbandry Pavilion (Quonset)	4,000	62,832	15,000.00
	c. General Service Storage..	4,000	40,000	3,000.00
	d. Chemical Engr. Storage (Butler Hut)	960	10,000	750.00
	e. Electrical Engr. Storage (Butler Hut)	960	10,000	750.00
	f. Mechanical Engr. Storage (Butler Hut)	960	10,000	750.00
	g. Horse-shoeing Shed (Butler Hut)	960	10,000	750.00
	h. Psychology Research (Quonset)	640	4,000	2,772.34

Plant Maintenance and Operation

During this two year period, the University spent approximately $240,000.00 for building maintenance on the campus. This expenditure constitutes roughly 1% per year of the present capital evaluation of the physical plant. A very large Veterans' Administration "On the Job" Training program was initiated in the maintenance organization affording some 22 ex-G.I.'s to learn trades such as auto mechanics, carpenters, electricians, steamfitter-plumbers, painters, stationery engineers, and resilient floor layers. All of the programs were approved by the State Department of Education and the Federal Committee on Apprenticeship of the U. S. Department of Labor.

In addition to the normal operating functions of the University, the Division of Business Management was called upon during this biennium to administer a large number of Special Budgets. Some of these constituted capital improvements or alterations and additions to existing buildings. Others involved the extensions of existing campus utilities, i.e.: water, steam, electric, sanitary sewers, storm sewers, gas, telephone, clock and bell circuits and campus lighting. All of the details involved in these operations from design to completed construction were handled by this Division. This detail work involved almost continuous liaison with utility companies, architects, surveyors, consulting engineers, contractors, and various State of Maryland departments with whom the various projects had to be cleared.

An incomplete list of the major budgets described above will indicate the magnitude and variety of the problems handled.

Incomplete List of Various Special Budgets Administered During 1946-48 Biennium

	Name and Scope	Dollar Evaluation
1.	Thir Floor Home Economics	$10,250.00
2.	West Wing B.P.A.	8,566.23
3.	Steam Line to Fire Service Building	9,000.00
4.	Gymnasium (Alterations and renovations to provide additional classroom facilities)	5,000.00
5.	Dairy Manufacturing Building	25,600.00
6.	Veterans' Housing exterior utilities, site	35,000.00
7.	Extension of Utilities—Federal Works Administration Program	75,895.85
8.	Administration Building Changes	7,500.00
9.	Completion of Third Floor Men's Dorms G., I., K. and L.	16,595.51
10.	Sewers, water, electricity, site work to Experimental Wind Tunnel Building	17,335.72
11.	Roads Vicinity Dining Hall	10,000.00
12.	Additional Post Office Boxes	7,312.50
13.	Dining Hall Equipment, Furnishings and Installation	110,000.00
14.	Centralized Parking, Paving and Grading Projects	125,000.00

The following is a list of permanent building projects which had been started at the date of this report:

Date Started	Name	Sq. Ft.	Cu. Cont.	Est. Cost	% Completed June 30, 1948
March 14, 1948	Building K	43,466	478,126		40%
March 14, 1948	Building H	89,370	1,221,620	$3,000,000	20%
March 14, 1948	Building G	119,680	1,512,500		10%
June 30, 1947	Addition to Central Heating Plant	(Special)		850,000	25%

All of these projects are expected to be completed by the spring of 1949.

General Service Department

A brief statement of each of the functions of this department will suffice to show that the efforts have been made in all branches to keep up with the increasing requirements of our enlarged student body.

Mail Service —Personnel was increased by two full time employees. A Postage Metering Machine was installed and individual student mail boxes were increased by 2,000 to a total of 5,700. This still requires the allocation of two students to nearly every box.

Police —Personnel was increased by four full time employees and watchmen. Service improved by the installation of 40 new stations.

Communication —One additional switchboard was installed making the University PBX installation the largest in Prince George's County and requiring an additional full time operator. The 24 hour telephone coverage for the University was improved with the installation of a night operator worked in conjunction with the Campus Police.

Grounds Maintenance and Development —A steady program of grounds improvement has been followed within budget limitations. Many yards of permanent and temporary walks have been laid while trees and shrubs were also sprayed, pruned and cared for. New grass cutting equipment was purchased and the campus lawns constantly were improved.

Warehousing and Transportation —The large acquisition of surplus property through the U. S. Department of Education, Federal Works Agency and War Assets Administration made the burden in these categories almost overwhelming at times. Major moves of Academic Departments into newly completed buildings and the continuous problem of setting up furniture and equipment for special events, athletic contests, dances, etc. were all competently handled and cost records maintained for reference.

Custodial Department

The Custodial Department initiated a major change during this period in the interests of higher standards of sanitation. Seventy-five per cent of the cleaning force was placed on night duty, and it has resulted in more efficient use of the personnel. Cost records have been maintained in this department for comparison with other Universities and Institutions.

The Student Supply Store

This operation, although seriously handicapped through out this period by lack of adequate space, more than kept abreast of the additional load thrust upon it by the increased enrollment.

The growth can best be seen in the comparative figures of gross business reports for the fiscal years of 1945-46, 1946-47, and 1947-48.

Total Receipts	1945-46	$94,901.92
	1946-47	353,578.67
	1947-48	440,316.95

It is felt that a properly designed and located store is a very great need of the students at this time. Such a store could increase the present volume by another 25%.

Veterans Housing Project

The responsibility for the operation of this temporary housing development on the campus is jointly shared by the Director of Student Welfare and the Business Manager. The assignment of apartments and rooms and disciplinary control are assumed by the former while the physical operation of heating, cleaning, building repairs and ground maintenance come under the latter. During the biennium roads and parking areas, grading and sodding have progressed. Major structural defects which developed in the war-time reconstructed buildings have been met as rapidly as materials and personnel have permitted. This program will be continued in an effort to make these dwellings as attractive as possible.



Margaret Brent Hall, Women's Dormitory

Purchasing and Accounts Payable Division

FRANK K. HASZARD, *Director of Procurement*

DURING the biennium, the Students Supply Store, which for a great many years had been operated by the Purchasing Division, was separated from that division and set up as an independent unit. This action was necessitated by the rapid expansion of the Students Supply Store to meet the needs of a tremendously enlarged student body.

Another important change in the scope of the division's work during the biennium was the assumption of responsibility for the vouchering of all bills. A great deal of clerical work is required to prepare bills for payment in the manner specified by regulations of the State Comptroller's Office. The new system of having all vouchers prepared by a small, specially trained group, working in close proximity to the Financial Office, rather than having the work done in numerous individual offices, has proved very satisfactory and has resulted in bills being paid more promptly, enabling all discounts to be taken, as well as giving complete control of accounts payable at all times. The name of the division was changed, as indicated in the caption, to take cognizance of this added function.

During the biennium, a large, special procurement program was carried on, in addition to normal procurement through established channels. Because of the unusual opportunity afforded by various Federal laws, to secure war surplus equipment at nominal or no cost, a Division of Surplus Property was set up, to handle this type of acquisition. Millions of dollars worth of badly needed office and classroom furniture, shop machinery, laboratory equipment, aviation and radio equipment, and basic supplies of all kinds, were secured for the mere cost of transportation. Many of the items acquired were not available at all through commercial channels, and it is doubtful if the University could have carried on its teaching and research work effectively during the G. I. crisis period without the assistance of this vast stock of supplies and equipment which streamed in from the War Assets Administration, the Federal Works Administration, and various Army and Navy sources.

Report of the Comptroller

C. L. BENTON, *Comptroller*

THE RECEIPTS FOR THE TWO YEARS ENDED JUNE 30, 1948, FOR THE SEVERAL DIVISIONS OF THE BOARD OF REGENTS AND THE STATE BOARD OF AGRICULTURE WERE AS FOLLOWS

1946—1947

	State of Maryland	U. S. Government	Student Income	Sales and Miscellaneous	Total
Instruction, Baltimore	$ 180,083.20	.....	$ 445,049.20	$ 158,652.62	$ 783,785.02
Instruction and Allied Activities, College Park	358,114.42	$ 75,624.79	2,021,977.76	1,485,585.78	3,941,302.75
University Hospital	396,024.00	.....	6,555.96	1,195,244.89	1,597,824.85
Agricultural Experiment Station	116,169.00	122,781.37	.....	131,677.89	370,628.26
Agricultural Extension Service	284,342.00	407,250.37	.....	133,868.78	825,461.15
Live Stock Sanitary Service	227,013.00	.....	.....	17,596.07	244,609.07
Business Management, College Park	320,110.00	.....	.....	26,026.14	346,136.14
Maryland State College, Princess Anne	36,444.90	15,161.00	17,897.55	36,806.60	106,310.05
Athletics and Other Student Activities, College Park	.....	.....	220,001.50	.....	220,001.50
Standard Salary Increment	281,687.87	.....	.....	.....	281,687.87
Teachers Retirement Fund Contribution	174,819.00	.....	.....	.....	174,819.00
Total	$2,374,807.39	$620,817.53	$2,711,481.97*	$3,185,458.77	$8,892,565.66
Percentage of Total Income	26.7%	7%	30.5%	35.8%	100%

1947—1948

	State of Maryland	U. S. Government	Student Income	Sales and Miscellaneous	Total
Instruction, Baltimore	$ 599,807.00	.....	$ 508,148.86	$ 189,660.70	$ 1,297,616.56
Instruction and Allied Activities, College Park	1,034,669.81	$260,214.57	2,760,254.51	1,910,312.15	5,965,451.04
University Hospital	733,225.00	.....	5,919.80	1,785,760.65	2,524,905.45
Agricultural Experiment Station	221,989.15	151,809.14	.....	87,444.70	461,242.99
Agricultural Extension Service	526,075.62	339,199.62	.....	170,017.36	1,035,292.60
Live Stock Sanitary Service	299,447.02	.....	.....	15,273.31	314,720.33
Business Management, College Park	323,937.21	.....	.....	53,963.83	377,901.04
Maryland State College, Princess Anne	116,312.40	15,161.00	40,188.00	51,321.16	222,982.56
Athletics and Other Student Activities, College Park	.....	.....	227,407.25	.....	227,407.25
Teachers Retirement Fund Contribution	177,807.00	.....	.....	.....	177,807.00
Total	$4,033,270.21	$766,384.33	$3,541,918.42†	$4,263,753.86	$12,605,326.82
Percentage of Total Income	32%	6.1%	28.1%	33.8%	100%

* Including $1,578,789.14 from the Veterans Administration.

† Including $1,924,986.22 from the Veterans Administration.

For additional information concerning the finances of the University of Maryland, please refer to the Comptroller's report for the fiscal year ended June 30, 1948.

Maryland State College

DIVISION OF THE UNIVERSITY OF MARYLAND

PRINCESS ANNE, MARYLAND

J. T. WILLIAMS, *President*

A REORGANIZATION of the program of Maryland State College began with the opening of the school year 1947-48. Formerly known as Princess Anne College, the name of the College was changed during the year to Maryland State College, Division of the University of Maryland at Princess Anne.

During the previous ten years the head of the institution bore the title Acting Dean of Administration. Beginning September 8, 1947, the new head of the College was given the title of President, with full authority to begin a reorganization of the school.

Maryland State College is the Land Grant College for Negroes in the State. In terms of origin, specific purposes and contemporary services, the program of the College is concerned with instruction in Agriculture, Home Economics, Mechanic Arts, and Arts and Sciences. As a Division of the University of Maryland, the Bachelor's Degree is awarded by the University of Maryland to students who satisfactorily complete the requirements for graduation at Maryland State College.

Enrollment

The enrollment at Maryland State College has been practically doubled over the span of one year. From the table which follows it may be seen that for the second semester of 1947-48 there was a total enrollment of 163 students. At the close of registration for the present semester, there were 323 students enrolled. This gain represents a total increase of 98 per cent. There was an increase of 106.6 per cent in the enrollment of men students and an increase of 82.46 per cent in the enrollment of women.

Enrollment at Maryland State College

Second Semester: 1947-48

First Semester: 1948-49

	Enrollment of Men			Enrollment of Women		
Classification	Second Semester 1947-48	First Semester 1948-49	Per Cent Increase	Second Semester 1947-48	First Semester 1948-49	Per Cent Increase
Freshman	44	107	143.00	21	47	123.8
Sophomore	30	41	36.66	10	19	90.0
Junior	15	32	113.33	14	17	21.43
Senior	16	18	12.50	7	14	100.00
Unclassified	1	21	2,000.00	5	7	40.00
Total.....	106	219	106.6	57	104	82.46

Before the close of registration for the present semester it was necessary to deny admission to 147 students who made application. Thirty-seven room reservations were returned to prospective students because of a lack of dormitory facilities. In the dormitories for both men and women, from four to six persons are sleeping in rooms designed to accommodate two students. The largest single factor restricting the enrollment at the College at present is the lack of dormitory space for both men and women students.

Teaching Staff

At the beginning of the Fall Semester 1947-48, eleven instructors constituted the teaching staff. By the end of the second semester the staff had been increased to 24 teachers. For the present school year 1948-49, the teaching staff totals 33 full time and 3 part time teachers; 9 have earned the doctorate, 21 hold the Master's Degree, and 6 have earned the Bachelor's Degree. This latter group is composed of persons who offer instruction in the field of Building Construction and Machine Shop. With the increase in personnel on the teaching staff there was the necessity of reassigning the rank of individual members. There are 9 professors, 6 associate professors, and 17 teachers with the rank of instructor.

Agriculture

Resident instruction, research and extension in Agriculture represent a basic core of the Land Grant College program provided by the Morrill Acts and subsequent Federal grants to Land Grant institutions. Of these three phases, the College has carried on a limited program in resident instruction. There are no buildings and very little equipment set aside specifically for the teaching of Agriculture. Almost all of the courses offered are lecture courses, due to the limited facilities for laboratory and practice work.

Home Economics

More than three-eighths of the women enrolled are majoring in Home Economics, and trends indicate that the number will increase in rapid order. The enrollees are majoring in Home Economics Education but many have expressed the desire to major in Foods or Clothing, with a view towards production in industry after graduation. Plans now are being developed towards the employment of additional instructional personnel and suitable equipment and supplies for a vast improvement in instruction.

Mechanic Arts

The Division of Mechanic Arts, embracing trade training, commercial arts and commercial industries, has assembled a competent faculty, but, as in other Divisions of the College, teaching efficiency is retared because of lack of space and equipment. The old Industrial Arts Building was designed to serve classes of from eight to ten students. The equipment therein will not compare favorably with the high school laboratories and shops from which some of the students come. At present, only two areas of instruction have adequate space: the wood shop and the photography shop. The metal shop is crowded into a temporary War Surplus Building, which it shares with Agriculture as a farm implement repair shop.

The drawing room is borrowed from Home Economics and accommodates but fifteen students at a time, thereby requiring expensive repetition of sections. The ceramics shop is in a temporary frame building with inadequate sewage, water, and electric power. The whole picture represents a heroic effort to do something under cicumrstances and with facilities which are woefully inadequate.

It is significant to note that the first Building Construction class in Carpentry was taught from the personal tool kit of the instructors of the class.

Natural Sciences

The natural sciences are the life blood of a Land Grant program of Agriculture, Home Economics, and Mechanic Arts. Thus, it should be expected that Maryland State College would have strong functional departments in chemistry, biology, and physics. The beginnings of a satisfactory teaching staff are present, but, as in other departments in the College, the physical facilities do not exist. The present valuc of equipmcnt and supplies in the area of the natural sciences is approximately $6,000.00

Limitations of the Report

The important fact cannot be overlooked that the reorganized program of Maryland State College is beginning almost from scratch.

It should be constantly bornc in mind that the College in reality is initiating a program of Land Grant College work in thc State for the Negro population.

In thc space which has been allotted, it is not possible to list each of the important contributions that the College has made to the State of Maryland during the past year and a half; nor is it possible to properly bring to the attention of the appropriate authorities the needs of the institution.

FEDERAL AGENCIES

Federal agencies having offices or facilities on the College Park Campus, University of Maryland

Department of the Interior

Bureau of Mines.

Eastern Experimental Station located in a separate building on the campus with the following divisions: Administration (including statistical services), Metalurgical Division, Mining Division, Health and Safety Division, Fuels and Explosives Division and Economics and Statistics Division.

In charge: Mr. Paul M. Ambrose, Superintendent.

Fish and Wild Life Service.

Technological Laboratory. Located in a separate building on the campus. Part of an extensive research laboratory system of the Service. This laboratory includes work in Home Economics and Technological Research.

In charge: Mr. Clifford S. Evers, Director of Laboratory.

Geological Survey.

Water Resources Division conducting surface water investigations in Maryland and Delaware. Located in Room H-106, New Engineering Building.

In charge: Mr. V. R. Bennion, District Engineer.

Veterans Administration

Training Officer for University Students under P. L. 16. Located in ground floor of Administration Building.

In charge: Mr. George H. Harper, Training Officer.

Army

R. O. T. C. Professor of Military Science and Tatics. New Armory.

Air Force

U. S. Air Force. R. O. T. C. Professor of Air Science and Tactics. New Armory.

Soils Stabilization Laboratory

Conducting controlled experiments by College of Engineering in the stabilization of soil for construction and extensive grading.

Department of Agriculture

Crop Reporting Service.

Maryland Office located in third floor Agricultural Building. This office collects statistics of present and expected crops in the state.

In charge: Mr. Julius H. Peters.

Soil Conservation Service.

Research Laboratory and Projects. Special projects assigned in the microbiological laboratory and in agricultural hydrologic studies. Located in the new Greenhouses.

Soil Conservation Service.

Office of State Conservationist.

Administers a number of Federal Conservation laws and cooperates with local conservation committees.

Located in Room 228, New Agricultural Building.

In charge: Mr. Edward M. Davis, State Conservationist.
Mr. Hugh Hancock, Assistant State Conservationist.
Mr. John S. Stewart, Jr., State Administrative Assistant.

Production and Marketing Administration.

Maryland State Office. Administers agricultural laws relating to production control and parity payments.

Location: Ground Floor, New Agricultural Building.

In charge: Mr. Joseph H. Blandford, Chairman.

STATE AGENCIES

Maryland State Department of Agriculture

H. C. Byrd, Executive Officer, Administrative Building, Campus.

The technical work of the Department is under the supervision of Dr. T. B. Symons, Agricultural Building, Campus.

Maryland State Chemist and State Inspection and Regulatory Service

Testing of animal feeds, lime and seeds. Located in Chemistry Building. Mr. L. E. Bopst in charge.

Maryland State Entomologist

Dr. E. N. Cory, Morrill Hall, Campus.

Maryland Bureau of Control Surveys and Maps

Located in the New Engineering Building. Dean S. S. Steinberg in charge.

Maryland Live Stock Sanitary Service

Located on a special campus near the B. & O. railroad station, College Park. Dr. A. L. Brueckner, State Veterinarian in charge.

LOCAL AGENCIES

Prince Georges County Mental Health Clinic

Temporary Building, HH.

PRIVATE AGENCIES

National Sand and Gravel Association Research Foundation

National Ready Mixed Concrete Association. Research Laboratory.

Conducting research in the properties and uses of sand, gravel and concrete.

In charge: Mr. Stanton Walker, Director of Research Laboratory and Engineering.

American Association of Mechanical Engineers

Aviation Division. Dr. John E. Younger, New Engineering Building.

American Entomological Society

Secretary's Office. Dr. E. N. Cory, Morrill Hall.

American Sociological Society

Secretary's Office. Dr. Harold Hoffsomer, New Classroom Building,

American Botanical Society. Publication Office. Dr. Ronald Bamford, Room 200.

New Agricultural Building.

Dairy Herd Improvement Association

Local Records Office. Dr. Gordon F. Cairns, Dairy Building.

Department of Publications and Publicity

COLONEL HARVEY L. MILLER, U. S. M. C. (Ret.), *Director*

THE Departments of Publications and Publicity edit, assemble, and prepare for publication the various types of publications emanating from various colleges and departments of the University regardless of department or school of origin, including, in some instances, projects from the Baltimore schools as well as Maryland State College. This includes such publications as thc annual General Information Bulletin and annual catalogs for various schools and colleges, essential official publications as required from time to time such as Student Directory, Academic Regulations, Biennial Reports, etc., etc.

This department also produces such extra-curricular pulblications as "MARYLAND" Magazine, the Alumni publication; the annual football program; homecoming program, etc., etc.

The Publicity Section distributes to all newspapers and radio stations, as well as certain other key addresses, items of interest and photographs pertaining to all types of activities at the University.

The Director of Publications also is available as Faculty Advisor in the preparation of undergraduate publications.

Part-time student labor by students interested in mastering the various phases of the practical application of publishing, publicity, and journalism, augments the regular personnel of this department.


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1807 · 1856 · 1920
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